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Raising Frogs for Market.
Many people know, both from experience and hearsay, that frog meat is a great delicacy, but only a few seem to be aware of the fact that it is possible to keep and derive an income from frogs the same as from poultry or any kind of live stock. Yet this has been, and is being done, so successfully that the industry promises to become a very important one. On Meadow Brook Farm, at Allendale, N. J., the rearing of frogs for market has been taken up scientifically, and to this plant the writer is indebted for the facts here presented.

A PAYING CROP.
According to what has been accomplished there the occupation is within the reach of nearly everybody. The chief requisite is to have a piece of ground which is swampy, and that can be found on most any farm. It is claimed, in fact, that more money can be made from an acre of swamp land, converted into a frogery and properly managed, than from ten acres of wheat, and with not near so much expense.

LIGHT WORK.
Best of all, it is light work—just the sort for people who are not strong enough to endure one of the heavier occupations, for those who are sickly it is beneficial, too, as being in the open air tends to health. Even for the city man who owns a country home it is recommended in that, aside from the interest and novelty there is in growing frogs, he as well as his friends who come from the city to see him will greatly relish the meat, the more because it is one of the natural products of the country. Compared with the investment, it is considered, where the ponds can be easily built, a much more profitable industry than poultry keeping, and one that will work together well with poultry; especially so if the plant is located near some large town or city where its proprietor has individual customers to whom he sells his products direct. He would then be likely to have a steady market for more frogs than he could supply, and at paying prices, as the meat is a luxury that most people of such a class indulge in, and would to a much greater extent if they only knew where to get it.

SMALL BEGINNINGS.
Be the prospects ever so bright, however, a small beginning is always advisable. This enables one to feel his way into the occupation, as it were, and if he does not like it, or it proves a failure, he does not lose a fortune. Early in the spring is the time to begin active work, and it is cheapest in the end to start with no frogs under four years old. There are various species of frogs, but the edible one known as *Rana esculenta* is the kind kept on Meadow Brook Farm, where a specialty is made in raising breeding stock. This is the variety that every frog pond should be stocked with, and the sooner in the spring it is done the better, as the frogs then have a chance to become familiar with their quarters before the breeding season sets in.

A FROGGERY.
The accompanying cut gives an idea of how a frogger should be built. It is not necessary, of course, to make the plant as expensive and picturesque as this, but it is important to have at least four ponds, one in which to breed, one in which to hatch, one in which to raise frogs, and one in which to keep stock. The last should be the largest, permitting plenty of room for growing and opportunities for getting food. Ponds of not less than one-half acre in area, with the inlet at one end and the outlet at the other, in a line of its longest axis, generally give the best results; smaller ponds, however, can be successfully operated, and their size, anyway, has got to depend chiefly on the amount of the land available, its topography and the water supply. In other words, if the ground one has will not permit of the construction shown, such an arrangement as it is best adapted to should be carried out. In a swamp, for instance, a portion 150x200 feet, and another part 150x30 feet, excavated so as to hold water, will usually suffice. The breeding frogs may be put in the larger pond, and the spawn hatched out in the smaller ones; the tadpoles, upon developing into young frogs, may then be turned loose in the swamp to grow until they attain marketable size, which, if there is a small stream or ditch running through the swamp, as is very often the case, they will readily do. Indeed, where such a course is feasible, frog raising can be carried on more profitably and economically than in any other way.

THE SMALLER POND.
however—the one in which the spawn is hatched—must be fenced in with one-half inch wire mesh from two to three feet high;

otherwise snakes and the like will get in and devour the spawn of which they are very fond. Outside of a swamp, all the ponds, in fact, should have a protection of this kind, for then the frogs can be confined where intended, and rats, cats, turtles, water centipedes, water beetles, coon, leeches and snakes debarred from getting to them.

It is not necessary to make the ponds very deep; three feet is ample, and they can be less where in a good loam bottom to hold water. Near the banks, of course, they want to be the most shallow, and if one-fourth of each pond is not over a foot deep, it will do; this portion should be planted with pond weed (*Potamogeton*) and water weed (*Elodea*, or *Anacharis*) to facilitate the production and growth of the minute animals which furnish so large a part of the food for frogs at all stages of their development. The rest of the pond should have a gradually sloping bottom, with consequent increase of depth to the outlet, the water at that point being at least five feet deep; by drawing off the ponds, the stock can then be assembled in a small area for sorting and the like. Soft mud, in which the frogs can bury themselves in cold weather and so escape freezing, should constitute the bottom of the ponds. In the middle of them, except the spawn hatching pond, water lilies—the large pads, such as *Nymphaea alba*—should be planted; these furnish hiding places from fish, hawks, as well as perches on which to bask in the sun and catch insects. For, truth to tell, a plant that will grow on top of the water furnishes many insects, which can also be attracted to the vicinity and within reach of the frogs by soaking a number of grain sacks with molasses and fastening them up around the ponds just above the ground. To guard against leeches, which are very destructive to frogs, nothing the same as hen lice do on chickens, whatever vegetable matter is grown in the ponds should be planted from the seed.

As already stated, the nursery ponds should have adequate means of protecting the young from their natural enemies, and, also of producing the greatest quantity of insect life suited for their sustenance possible. In the first place, however, the spawn of frogs, which looks like a gelatinous mass in the shape of a bunch of grapes, will be found attached to some vegetation in the breeding pond, near the surface of the water. As impregnation takes place immediately after it is deposited there, every "bunch" should, on discovery, be taken out at once with a large, long-handled dipper and placed in the hatching pond. Otherwise the spawn will be destroyed by the frogs jumping into the pond and coming in contact with it, for anything that separates or breaks it up will cause it to sink to the bottom of the pond, where, failing to get the proper action of the sun, the eggs cannot hatch.

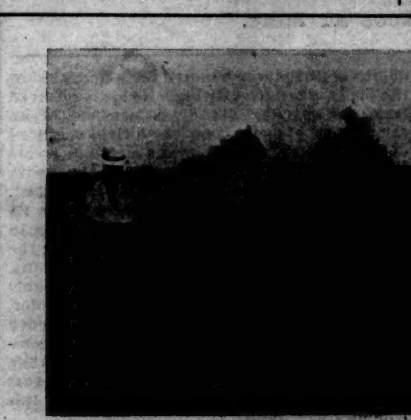
ON THE BOTTOM OF THE HATCHING POND some skeleton frames should be set that come within a few inches of the top of the water; weights or stakes into the ground may be employed to keep them in place. Over them some fine netting—either cotton or flax, such as is used on windows to keep out flies—should next be fastened, and on this the eggs or spawn, taken from the breeding pond, deposited. In this way it will be undisturbed, and the sun, provided the netting is always kept covered with water, do its part toward hatching the eggs. Furthermore, when the spawn does hatch into tadpoles, the frogs will have no chance to eat them as fast as they wiggle out of the eggs, as they will do if they can get to them, until the young frogs are large enough to protect themselves.

It takes from four to six weeks for the spawn to hatch to the shape of tadpoles, and these, in turn, from four to five months to develop into small frogs; up to which time they are fish in a sense and will eat almost anything, either vegetable or animal matter. They are, in truth, scavengers, and will clean out the ponds. Hence, if these are not connected with a running stream, which will bring to them insect life, chopped meat and food of that character should be presented sparingly. I say sparingly, because if they do not eat it up there, there will be an accumulation to decay and cause a stinking stench to follow. But as soon as they turn into frogs they become amphibious animals, and require then a different class of food; they want the live food, and animal food, only. Failure to keep them well supplied with this will result in their turning to eat and eating each other, whereupon much frog meat, that is worth "one dollar a pound" or more, will be destroyed. As tadpoles hatch out prolifically, one bunch of spawn from large, well-developed frogs of five years of age or over, producing or hatching over a thousand, it is policy to keep a large quantity of these, including small frogs, on hand to feed the larger ones which are being gotten ready for market. This can be done by having a number of smaller ponds.

NO LARGE BOWLDERS.
or the like should ever be placed in the ponds, as these furnish an acceptable resort for crabs, which are enemies of frogs when large; such obstructions are also in the way of seining or netting and of cleaning the ponds. The frequency of the last will depend, of course, on the character of the water supply, the amount of silt it brings into the ponds, the nature of the soil, and on the thoroughness of the yearly removal of the surplus vegetation. It will not do, however, for them to become offensive with stagnant water and rotten vegetation; and though an abundant pond vegetation is favorable to a large production of fry, too luxuriant a growth will settle down in a blanket-like mass, and another pond in many of the young frogs. Under such conditions it should be removed later.

With the ponds so constructed, where the topography of the land will permit that they can be drawn off, this can be done at any time by lowering them.

A STRONG FLAT-BOTTOM BOAT is needed in which to take and carry off the surplus matter vegetation, which should be raked from the water in small lots, and care must be exercised not to bring up any of the small frogs and tadpoles with it. As it will rot very fast, it wants to be removed from the banks of the ponds at once. Owing to the fact that from two to three years are required for frogs to grow to marketable size, this discourages many from entering into the business. No one should let such a thing deter them, however. Once a plant is equipped and the three years have gone over, the revenue from that time on is continuous and the profit large; the yearly income is equalled, in fact, by no other line of business, as one always has some frogs, then, that are coming into marketable size. And conducted on a big scale, as it may be in the right locality, the income, once the "knack" has been thoroughly acquired, cannot help but be large. There is a profit, too, to be made by raising and selling frogs to beginners. The prices for these range according to age, it taking from four to five years to get the best breeders. Indeed, the older and larger they are, the heavier and larger will be the spawn, and the more eggs hatch and produce stronger and sturdier



Position and method as taught by the class leader at one of the farm schools.

tadpoles; and from such makes the frogs will grow more quickly. In starting it is always better, therefore, to pay a little more for breeding stock and get "good, old settlers," as the saying is. Six pairs of such frogs are enough for any one to start in with.

FRED O. SIDLEY.

Otsego County, N. Y.

Profit in Summer Hogs.

The summer care of hogs is a comparatively easy problem, but it is, according as one is situated, not quite so easy in winter. Pasture and pure water are the perfection of food for summer; and for winter, rice, molasses sugar beets, raw, early corn and good fresh water, with a little warm soup of boiled turnips, cabbage or squash and a little skimmed milk are just right for the breeding sows, small pigs and growing shotes, with a little addition of corn and ground grain, as barley, oats and corn, and a little of the best quality of wheat bran, for the pigs that are nearing the dressing-off period. Some two or three weeks before killing time, eliminate turnips, cabbage and squash from the ration.

Three acres of grass—not old, dried-up stubble—and an acre of rape will feed a carload of pigs throughout the season. Any of the good English grasses are all right, though clover is par excellence, if possible. Grass four inches high is perfect, and it should not be allowed to get beyond this. If the season is perfect, and the growth rapid turn in extra stock to keep it down, and remove when fed sufficiently. If short periods of drought come on try to irrigate, if possible. The acre of rape should be at one side, and divided so the pigs can feed off the two halves alternately once in about ten days. This must be left out of the feed some three weeks before killing time. Mud holes and wallows must not be allowed in the pasture, but a trough of clear running water, and a shallow tank of water set on a plank platform, into which the pigs can step easily and cool off, are indispensable. This arrangement should be beside a fence, where the waste water can escape. Every pig that goes to pasture must have a ring in his nose, then the perfect pasture will be preserved during the season. An exception to this might be useful where a wood lot has been cut off and it is desirable to bring the land into tillage. A hundred eight-week-old pigs, well cared for, will fix this piece of stump land in an incredibly short space of time.

—A. A. Southwick, Tarrant, Mass.

Mistle with Clover.

Though of late so much has been written in favor of alfalfa, I cannot refrain from adding my recommendation of it to those who want to grow the most valuable of green crops.

I can thoroughly recommend it, and feel capable from experience of recommending it. It may almost be looked upon as a permanent crop, or, if desired, it will remain productive for ten or a dozen years. I know that there are some who have failed to get a full plant, but many more have succeeded, and once it is secured it goes on. I consider the cause of failure, as a rule, is covering it broadcast instead of drilling it in.

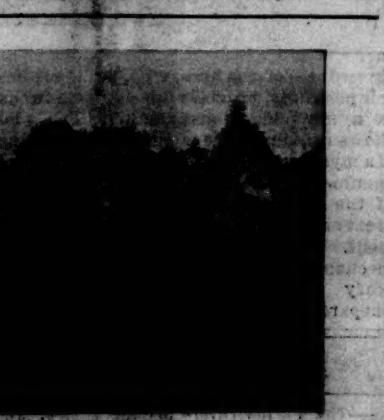
Alfalfa may be sown in wheat, barley or oats. It should be drilled like clover. Some advise covering it in two or three inches

apart, the rest of the space between being cultivated two years to come to kill the weeds, but I prefer to sow the ordinary distance, and cover four weeks pre-dominating or early injury, as the alfalfa grows no luxuriantly that weeds have no chance of existing or spreading.

Some sow the whole of alfalfa, but on the other hand there are those who maintain that a mixture of white clover and orchard grass is decidedly better. The latter, it is claimed, is a great support to the alfalfa, especially in a wet season, and while clover gives a very valuable bottom, perhaps for hay the mixture of the three may be better than pure alfalfa; also for grazing after all cutting is over. The clover and grass may be an advantage, though personally I have been always perfectly satisfied with alfalfa "straight." The cost of seeding is considerably less for permanent pasture on a three year levy.

Any soil will bear a good crop of wheat will produce alfalfa perfectly, and there need be no hesitation in introducing it at once on any field that has been well cultivated and is in good heart. It is far surer than ordinary clovers on stiff soils, and for the alfalfa crop twenty pounds to the acre would be soon.

Either way, or with the mixture mentioned, the yield should be enormous, and from the second or the third year two or three crops may be cut in one year. The



Position and method as taught by the class leader at one of the farm schools.

first is raised, where any kind of hay or second comes in just before the grain, and the third in the autumn.

Indeed, those unacquainted with alfalfa in its greatest productiveness would hardly credit its bountifulness. Alfalfa hay—properly made—is an excellent food for wintering stock, and it sells in town readily for horse feed. With fifty acres of such a vast yield, the farmer, say I large, need have no worry as to his stock not being provided for in winter, and I often wonder within myself and express surprise to others, how it is that alfalfa is not more widely and generally taken advantage of.

W. R. GILBERT.

Irrigated Sweet Corn.

One farmer, located in Winchester, who grows ten acres of sweet corn, plants all of his five feet apart. He irrigates that corn with water pumped by one of these pumps which delivers 120,000 gallons a day. He told me it cost him not over \$5 a day to supply the water to that corn.

His corn rows are about six hundred to seven hundred feet long, and the water will run from one end of the place to the other without going out of sight. On some land you can't do that. As soon as his corn is picked, which will be about the twenty-fifth or twenty-eighth of July, he sells the whole thing to milkmen in the neighborhood, plows the ground and plants it to celery five feet apart; and he irrigates for the celery in the same way.—Henry M. Howard, West Newton, Mass.

Hay and Potatoes Promising.

One of the heaviest hay crops ever harvested in this vicinity is now being stored. Potatoes never looked more promising at this time of year.

Corn looks fine but is ten days late, lack of warm weather being the cause. But as August is the month to make corn, all are looking for a seasonable month then, when the crop will catch up and come in on time. Oats are showing a tall stock and large heads.

G. W. BRIDGES.

Hillsborough County, N. H.

Notes from Washington, D. C.

The Department of Agriculture has recently made public a number of experiments which should be of value to the farmer. These studies are made by experimenters who watch carefully for every change in condition and result with a view to making public such features as might prove of benefit.

HOW TO CLEAN MILK CANS AND BOTTLES.

One investigation made was that of methods employed in cleaning bottles and cans used for milk. Several methods were found in use, (1) rinsing out cans or bottles with cold water, which, while almost necessary to remove the remaining milk, is considered as leaving the can almost as dirty as before; (2) washing bottles and cans with a hard brush and a solution of one of the various washing powders, the method most often used by the small dealer, who was frequently found to be done capriciously and without hot water, or a washing powder solution strong enough to be satisfactory; (3) washing with machines with a revolving brush and solution of washing powder and rinsing in water, the results of which method were considered unsatisfactory from a bacteriological standpoint; (4) throwing a jet of live steam into inverted

cans, which method frequently serves to fix the dirt already in the can and does not destroy the bacteria; (5) washing by means of large machines constructed to throw powerful streams of hot washing powder solutions into the bottles, and followed by boiling water, which method, the author says, was investigated thoroughly and found most satisfactory; and (6) washing with soap and water and sterilizing in a steam box or autoclave, which is a fairly good method, but applicable only when a comparatively small number of bottles are to be cleaned daily.

The fifth method mentioned is considered capable of cleaning 95 per cent. of the bottles perfectly. More than five hundred bottles have been washed going through this kind of machine without finding one that has not been thoroughly cleaned. This is probably the only rapid practical method of sterilizing and cleansing milk vessels.

Several washing powders were compared as regards their ability to destroy bacteria and cleanse milk vessels. The germ destroying power was found to be slight. Sodium carbonate and powders containing a large proportion of this material were found to cleanse most thoroughly and rapidly. Powders composed of alkali and a fat cleansed well, but less rapidly.

PROFITS OF A HOME GARDEN.

A report from Illinois presents details of the management of a half acre of ground used as a vegetable garden for five years, beginning 1900. The cost of preparing and maintaining the garden each year, vegetables planted, and the quantity harvested, and the value of the products, were systematically recorded. The half acre was made in the form of a rectangle and the rows planted lengthwise of the garden and far enough apart to permit horse cultivation. The following shows the value of the products obtained from the garden for each of the five years of the experiment, the total expense each year and the net profits.

In 1900 the value of products was \$83.94, total expense, \$93.04, net profit, \$61.78; in 1901 the value of products was \$88.47, total expense, \$95.06, net profit, \$83.41; in 1902 the value of products was \$124.31, total expense, \$30.96, net profit, \$93.35; in 1903 the value of products was \$112.73, total expense, \$29.10, net profit, \$84.63; in 1904 the value of products was \$138.81, total expense, \$27.73, net profit, \$111.08. The average value of products was \$105.23, average total expense, \$30.78, and average net profit, \$74.45.

From observations made with a number of hens it was found that in every instance the eggs were moved every day, and did not remain in the same part of the nest for more than three days. The thorough manner in which the hen turns the eggs may well furnish us a clue to the most natural and proper treatment of the eggs when under the artificial conditions of the incubator.

A NEW POTATO.

A report received by the Department of Commerce and Labor from the British Vice Consul at Rouen, France, states that the cultivation in France of a new potato brought from Uruguay has been observed for some time with great interest. A variety of this potato, called the "solonum comersoni violet," is said to possess excellent qualities of taste as well as a nutritive value, and is equal to the best potato known in France. This variety is distinguished by its resistance to frost, as also to disease, and its one great advantage is that it prospers most in a damp or swampy soil, and whether clayey, calcareous or siliceous, seems equally adapted for its culture, provided it is damp. The price of this potato, which has now been placed on the market in a limited quantity for planting purposes, is about forty-eight cents per pound.

SMALL SCALE IRRIGATION.

After watching for years the successful operation of irrigation plants on a large scale in the West, the Eastern farmers are taking up the practice on a small scale to help out the rainfall that in an ordinary season is supposed to be sufficient to raise crops. A report to the Department of Agriculture recently shows something of what is being done in this line and the report is enough to encourage the farmers who have not taken up the practice to put in plants.

The irrigation works in the East cover parts of Maryland and Pennsylvania, New York and some of the New England States. The plants are mostly in connection with truck gardens, for it is there that the returns per acre are the highest and the farmer can afford to spend more money for water than he can on less paying crops. Some of the water is from the city mains and the cost is, of course, high. Others of the Eastern irrigators have to pump from wells and use expensive lines of overhead and underground pipes. But the result, as a rule, is that the irrigated farm pays about twice as much as that without irrigation.

There are some wet seasons in the East, when there is no need of irrigation at all. But there are other times when without artificial watering the crops would be a total failure, and when with the aid of irrigation crops mature as much as two weeks earlier, and of course bring much higher prices. Irrigation has been tried also on pasture lands and the farmers report that twice as much hay can be cut in a season off irrigated land as on that not irrigated, and that if the land is used for pasture twice as many head of stock can be grazed to the acre as on dry pasture, and that the feed is better.

Berries and small fruits and celery and beans seem to pay particularly well for the added water given them. There are numerous instances cited in the report where the irrigation of a strawberry farm has made all the difference between success and failure. The report goes into many technical details.

tells as to the cost of pumping plants and the results obtained under various conditions in various localities.

INTERNATIONAL CHAMBER OF AGRICULTURE.

The Congressional appropriation of \$2000 to pay for maintaining an international Chamber of Agriculture in Rome is looked upon as a good investment. The Italian King has this to say for the project: "More solidarity among agriculturists is needed. For this reason an international institution, absolutely unpolitical in its aims, which would have before it the conditions of agriculture in the different parts of the world, which would notify periodically the quantity and the quality of the crops in hand, so as to facilitate the production of such crops and render less costly and more rapid the trade in same, and facilitate the attainment of a more favorable settlement of prices, would prove highly beneficial. This institution, acting in unison with the various national associations already constituted for similar purposes, would also furnish reliable information as to the demand and supply of agricultural labor in various parts of the world, so as to provide emigrants with a safe and useful guide; it would promote those agreements necessary for collective defense against diseases of plants and domestic animals which cannot be successfully fought by means of partial action; and, lastly, it would exercise a timely influence on the development of societies for rural co-operation, for agricultural insurance and for agrarian credit.

"The American Department of Agriculture, and especially its publications, were praised by several deputies, chief among them Signor Ferraris, who declared that the world is a debtor to the department for a rich treasure of information and observations. Special mention was made of the decennial agricultural census. He added that these international, devoid of political significance, are great things, such as, for instance, the Universal Postal Union, which was suggested by Germany."

GUY E. MITCHELL.

Aiding the Second Growth.

In order to assure a strong second growth it is wise to apply some quick-acting fertilizer soon after the first crop is removed. The writer has found that 150 pounds of nitrate of soda per acre will give profitable returns in the second crop of hay. Most manufactured fertilizers which contain a large proportion of quick-acting forms of nitrogen should give good results when used in this way. Fine and well-rotted stable manure, while not as active as most chemical fertilizers, will often pay in the increase of rosen when spread on the grass lands shortly after the first crop is removed.

Another method of securing a good second crop, where it is desirable to keep the field in permanent mowing and the soil is badly "run down" so that very light yields are obtained, is to cut early and plow and seed at once to clover and mixed grasses, using at least fifteen pounds of clover seed per acre. Where the seeding is done early in July, a good crop of clover should be obtained late in September or early October, and a strong growth of grass and clover will follow for next year.—Charles S. Phelps, Chapinville, Ct.

The Farm Home.

I have been in many farm homes when I have wondered what the family can find in life worth living for; no papers, no books, no refining influences of any sort, and seemingly but little regard for comfort. I believe in making the farm home pleasant and attractive by setting out ornamental trees and fixing up around the buildings.

With plenty of fruit, a good garden and a few flowers, how can the farm home be anything but inviting. Let something in the line of improvement be going on nearly all of the time, and let each of the boys and girls have something of their own to interest them and to bring in some cash for themselves. In the house plenty of good reading matter ought to be provided. It is cheap, and besides being entertaining, will have a great influence for good on the family.

On many a farm some of the young people could profitably take up beekeeping, and this, if profitably handled, would bring in a nice little income. It is of considerable importance that some standard book on bee culture be studied if one expects to become an expert in beekeeping, and some bee periodical might also be subscribed to with profit; but still our general farm papers contain much matter of value to the one keeping bees in a small way. To very many the keeping of bees is a very profitable and interesting branch of agriculture. I should consider my farm very incomplete if we had no bees on it. A number of neatly painted bee hives adds to the attractive appearance of one's home.

Even with limited means, but good taste, the home can be made neat and attractive. F. H. D.

Among the Farmers.

For raspberry I raise the Outabot; this raspberry brings the best price in Boston market. I raise the Downing gooseberry, which is also a good seller, and several kinds of plums. The Moore's Arctic, Lombard, Niagara and Shippers Pride are good plums to raise for the market, but plums are a hard fruit to grow on account of black knot and curculion.—A. A. Eastman, Penobscot County, Me.

Farmers are going more into the North-west style of implements, such as two-furrowed plows, wide drags, hay loaders and tedders, manure spreaders and anything to save labor.—A. H. Arcestock County, Me.

Dairy.

Vitality of Dairy Cows.

As a rule, a cow when bred for both milk and beef is not the most profitable kind for the dairyman to keep. But there are, however, two requisites essential for the best dairy cow, although she may not properly be called a dual-purpose cow in the same sense as a cow to be of the greatest value to the dairy must not only give a good quantity of milk of a good quality, but must also be capable of reproducing herself. That is, she must bear calves, that, with proper care, will fill her place in the dairy. With the tendency to crowd a cow to her limit, as a milk and butter producer, so prevalent among dairymen and breeders, this second requirement is in danger of being overlooked or neglected in the attempt to get the biggest milk record possible.

There is not only a possibility, but a probability, that our best dairy cows will be greatly impaired in this second, but not secondary, requirement in these days of milk and butter contests at fairs and cattle shows, where the tendency is to crowd the cow beyond what she can stand, and still retain a strong, healthy and vigorous constitution. Great care and skill are necessary in the breeding of dairy stock to perpetuate this second requirement if the welfare of the dairy cow of the future is considered. To illustrate, and, if possible, make clearer and more emphatic this point, permit me to cite a case of my own observation.

Early in the spring of 1906 the writer purchased, with others, two pure-bred heifers, one two years old and the other three. The latter had but recently dropped her first calf, which was a good one, and the former soon after dropped her first calf, also a good one. Both of these calves grew up vigorous and healthy.

Both cows were about the same quantity of milk of equal quality during the first summer and fall, on the same feed and care.

As the time for them to freshen the second time approached, both being due about the same time, the younger one went dry for a short time, while the other continued to give milk up to time of calving.

Now which is the better cow, both giving about the same quantity of milk this summer? Some will say the one that gave milk the longest before having her second calf. Is she the most profitable cow for the dairy? Let us see. When she had her calf, although fully developed, it lacked vitality, and died in a few hours. The other gave birth to a healthy, vigorous calf, which was recently sold for a sum that will require a large amount of milk to equal in value.

Besides the first cow has nothing to leave to keep her place good in the dairy, and should she continue to give a large amount of milk till old age impairs her usefulness, and does not leave any offspring, or only weak and puny ones, with no vitality, her usefulness is at an end, while the other one with a goodly number of healthy offspring, of good quality, will be remembered long after she is dead and forgotten.

Rutland County, Vt. E. M. PIKE.

Variations in Milk.

The variations which occur in the quality of the milk produced by a cow have been always something of a puzzle to those who test their animals regularly. The percentage of butter fat in the milk will vary from day to day, although the average for a week or two may be fairly constant. There is a pretty general idea that if cows are milked at unequal periods of the day, night and morning, the evening's milk will be richer in solids, especially fat, than the morning's milk. If, on the other hand, equal periods for milking were adopted, it is thought that the quality of the milk would be equalized. This belief is a fallacy.

I was, years ago, accustomed to see cows milked at the same hour, night and morning, to the minute, yet the morning's milk was always poorer than that of the evening. Why this is so is one of the mysteries of nature. One would expect that, owing to the comfort and quiet of the night time, the best milk would be secreted in the morning; but, as it is, things happen the other way about, and nothing can be done to prevent it. It is probably correct to assume that the more unequal the milking periods the more unequal will be the analyses. The difference between the morning and evening milk may be reduced by equalizing the time of milking as nearly as possible, but it will never quite disappear.

W. R. GILBERT.

Dairy Settings.

Study each cow; strive to feed her economically, but amply.

Clean the udders before each grain feed.

Salt the herd every day.

Weight out the grain ration for the herd.

Feed silage after milking. Keep silage and ear out of stable other times.

Feed hay after silage in morning and two hours ahead of milking at night.

Arrange bedding the last thing at night.

For the milkers these rules might be posted:

Milkers will wash their hands before milking, and put on an apron or other suitable garment not used at other times.

Just before milking a cow wipe her udder and flank with a clean moist cloth.

Do not disturb cows until necessary to get them up to milk.

Begin milking on time. Milk the same cows in the same order.

Milk with dry hands; get all the milk.

Remove the milk promptly from the stable.

Avoid boisterous conduct about the stable.

Treat the cows with uniform kindness.—H. B. Cannon.

Read to Dairy Profits.

In its crop report for June, recently issued, the Massachusetts State Board of Agriculture includes an article on "Some Causes Affecting the Profits of Dairying," by F. S. Cooley, professor of animal husbandry and dairying at the Massachusetts Agricultural College. This report will be sent free on application to J. Lewis Ellsworth, secretary State Board of Agriculture, State House, Boston, and those wishing it may have their names put on the mailing list to receive future issues.

In opening the article Professor Cooley says: "It is hardly necessary to assert that dairymen are deriving less profit from their investments and lower wages for their labor than they would like or even than that which a good business should lead its patrons to expect. The purpose of this paper is to notice briefly a few of the things that stand in the way of the best success of dairy farmers."

The most important factor in profitable dairying, says Professor Cooley, is good

soils. No particular type or breed can be recommended for all conditions, and the dairyman must study his situation and ascertain which breed is best adapted to his purpose. An analysis of the results of a number of experiments is given, showing the wide difference in profit between individuals in typical herds. All admit the value of better cows and the problem is how to get them. Many of those who supply milk for the city markets are so situated that they cannot raise their own cows, and must replace their herds by purchase. It is extremely difficult for them to obtain good cows in this way, owing to carelessness in breeding by those who have the cows for sale. Professor Cooley urges that a pure-bred sire be used in all dairies where calves are reared, pointing out that where a common bull is used the average price received for heifers at maturity is only \$25, while the choice progeny of superior stock will command \$30 per head and often more. Here is an opportunity to largely increase the profits of the dairy as a comparatively slight expense.

The writer urges that feeds be produced on the farm as far as possible. Usually the best practice is to purchase only feeds rich in protein and raise the coarse fodders on the farm. Cows fed on starvation rations yield no profit and those overfed with expensive feeds are also kept at a loss. The point of highest profit in feed must be determined by experiment and calculation and varies with the locality and circumstances of the feeder.

The quality of the milk varies with the breed, period of lactation, and individual, and very little with the feed. The fat content of the first milk drawn is about two per cent, and that of the "strippings" eight to ten per cent. For this reason careful milking is of the utmost importance. Many illustrations of this fact are given.

Professor Cooley strongly urges that it is important to know the cows, and says that the milk scales and the Babcock tester are necessary agencies for obtaining such knowledge. He advocates the forming of milk testing associations among the farmers, where the results can be obtained by co-operation at a minimum of expense, and gives figures showing that such associations are practical and comparatively inexpensive to the individual.

The Golden Chronicle.

A new residence for the observatory staff has been presented to Wellesley College by Mrs. Sarah Whitin of Wellesley, Mass., and will be ready for occupancy in the fall. The house will be furnished entirely by Mrs. Whitin, and it will be occupied by Prof. Sarah F. Whitin, the director of the observatory, Prof. Ellen Hayes of the astronomy department, Miss Rebecca Ellis, assistant to Professor Hayes. This is only one of the many gifts that Mrs. Whitin has given the college. The building is a little south and on a line with the Whitin Observatory, which was opened in 1900.

George J. Loughton, who died recently at Asheville, N. C., leaves by his will, which was probated this week in Brooklyn, where he resided, several provisional legacies to institutions. Edna Porter received the income from a trust fund of \$10,000, which after her death is to be divided between the Brooklyn Orphan Asylum and the Industrial Home. For the benefit of Samuel Dodge a trust fund of \$10,000 is created, which upon his demise is to be equally divided between the Home for Consumptives and Plymouth Church. Packer Institute is bequeathed \$5000 outright for three scholarships, and the Young Men's Christian Association and the Young Women's Christian Association of Brooklyn receive without restriction \$5000 each. Mabel Shed of Portsmouth, N. H., is bequeathed \$10,000 during her life, but eventually it will go to Portsmouth College Hospital. Edith Loughton gets \$10,000, with Portsmouth Independent Home as the second beneficiary, and Helen Loughton is bequeathed \$10,000, which on her decease goes to the Portsmouth Young Men's Christian Association. Ruth Loughton also receives the income of \$10,000, the principal being left to Portsmouth Chase Home for Children.

Frederic Vinton's portrait of the late Thomas B. Reed was this week hung in the rotunda of the State House at Augusta. It was Mrs. Reed's gift to the State of Maine, and is said to be a speaking likeness. It is the only painting of Mr. Reed in existence, with the exception of the picture by Sargent, which hangs in the rotunda of the National Capitol with the other Speakers of the House of Representatives. Mr. Vinton's picture of the distinguished statesman was reproduced from photographs and from the memory of the artist, who was an intimate friend of Mr. Reed.

An effort will be made by the Susan B. Anthony Memorial Association to raise \$75,000 for the Anthony Memorial Building for women students in the University of Rochester. In the different cities auxiliary committees will be formed and collectors will be given books of coupons for small subscriptions. These are in charge of Miss Charlotte P. Acer, whose address is post-office box 265, Rochester. She is the corresponding secretary of the memorial committee.

Literature.

THE SIN OF GEORGE WARRNER. A story of the realistic school that is distinguished by remarkable straightforwardness and simplicity of style is told in "The Sin of George Warner," by Marie Van Vorst. It relates the experiences of a married couple who lead a rather prosaic life in a New Jersey village. The husband is a New York broker's clerk, hard-working and honest, and the wife is a pretty woman, discontented with her position in a vague sort of a way until she is brought under the influence of a rich and cultivated man. Then she aspires to a higher social station and ruins her husband by her extravagance. He flies to Canada, having used other people's money to speculate with and pay his bills. In the meanwhile, the man who has seduced her, while writing with the vein and shadow of Little Wit, goes off to Europe, and the returns to her home to take up her maternal duties in much the same fashion as of old, having learned a lesson through her foolishness. She is not without her good qualities, and the man who would have wronged her is glad to take her back again to his home and heart. He is forgiven for his first lapse and she is given an opportunity to begin life again and restore his error.

He was not a man honestly dishonest, and his sin is excused by his methodical and his play, who is obviously well educated in the brief glimpses that are given of his entire personality. Both Warner and his matrimonial partner are drawn with precision—they are not romantic figures, but they illustrate certain phases of everyday

existence that are not often pointed out in fiction with a Thackeray-like attention to detail in characterization and description. The novel is one that impresses by its naturalness and its ability in treating a subject that, in the hands of a less practiced writer than Marie Van Vorst, might degenerate into sentimentalism. The author's style in this book is of a type that is often to be found, and shows how weak the ordinary man often is under the strain of temptation. It is a novel for the hour that all should read. (New York: The Macmillan Company. Price, \$1.50.)

THE GOLDEN GREYHOUND.

In this novel by Dwight Tilden, the author of "Miss Petticoats," we have a story of marine adventure that is strictly in harmony with the most advanced developments of modern times, and without telegraphy is introduced into the narrative with striking effect. The Golden Greyhound, from which this novel takes its name, is an Atlantic liner which carries a large shipment of gold. The hero, a young New Yorker and a former Yale athlete, embarks on this vessel, which carries a passenger with whom he is desperately in love, a young woman of charming character and rare personal beauty. He has with him a valet a youth from the country, and the two go through many scenes of peril during the voyage which abounds in thrilling incidents. A plot to steal the valuable cargo is overthrown by the



TWO MARKET FROGS AT HOME.

shrewdness of the hero, who, finding himself penniless, provides himself with funds in a most ingenious manner. The plot shows rare inventive talent in the handling of a mystery and the revelations are full of genuine surprises. The humorous features of the novel are original and furnish a great amount of genuine food for entertainment. The book is as attractive from a mechanical point of view as it is from a literary one. (Boston: Lothrop, Lee & Shepard Company. Price, \$1.50.)

Historical.

—The Pacific covers 60,000,000 miles: the Atlantic 30,000,000, and the Indian Ocean, Arctic and Antarctic 40,000,000. The Pacific holds in weight 500,000,000,000,000,000 tons. The Atlantic averages a depth of not quite three miles. Its waters weigh 250,000,000,000,000,000 tons, and it takes to contain it would have cost of its sides 200 miles long. It would take all the sea water in the world 3,000 years to flow over Niagara.

First cousin to the Star of Russia, to the German Emperor and to the heir to the throne of Great Britain, Princess Ka of Battenberg is almost as nearly related to a far humbler family circle. Toward the beginning of the last century a Polish Jew, Hanks by name, entered the service of the Grand Duke of Hesse-Darmstadt, and occupied a very subordinate position at the little court. His daughter, Julia Theresa, born in 1825, was at the age of twenty-six,

would destroy the value of farming lands by bringing in the salt water, and would, on the raising of them, because they would be so blackened by the salt.

—In argument and action has been seen the necessity of elements without chemical affinity. Dr. T. Cooke has shown the London Royal Society that even these gases follow the rule, as at about 1250° C. oxygen forms an unstable compound with zinc and helium with cadmium.

—The natives of German East Africa have contracted the vulgar habit of drinking soda water directly out of the bottles, instead of pouring it into a glass. To check this the government officials have issued a regulation that all natives discovered drinking out of bottles will be liable to severe punishment or imprisonment, but redoubled bottles so used should send their way to tables of Europe.

—A curious fiction effect lately described to the Paris Academy of Sciences is produced by rapidly spinning a glass globe filled with water containing a fine powder. When the powder is lighter than water, it collects along the axis of rotation; when heavier, the powder separates into three zones, with two parallel of latitude equidistant from the equator, the upper and lower segments being clear, while the powder is in the central zone and mostly on the boundary lines.

—The billions of white ants in Egypt contain chambers about as large as cocoons, which contain spore-like nests, each occupied by thousands of ants. The "termites trails" described by Dr. Deffen of Munich are pin-head nodules of white fungus cultivated in these nests as food.

—With his new diving suit, M. de Pivry, the French hydraulic engineer, has made considerably more than one hundred descents, reaching

depths of 150 to three hundred feet—much below the limits of ordinary diving. His air is received from the outside. The dress consists of an armor of sheet metal from one-fifth to one-third of an inch thick, with joints and coupling points of pressed leather and rubber and a helmet with two cylindrical communicating chambers attached. The air, circulating through the helmet, has its oxygen continually renewed by chemicals in these chambers, regulating valves keeping the pressure in the helmet constant at all depths. Breathing and descending are effected by a cable carried on a drum driven by an electric motor, and this cable also carries the current needed for the respiratory apparatus. The diver communicates with the surface by telephone, while wires run from the armor to electric lights that show his working of the different parts of this complicated "dr-as."

Gems of Thought.

—Open your eyes, mortal Father, then we may see the wide difference there is between what we are and what we ought to be. Be still, and we shall see our spiritual slumber. Take us, heavenly Father, and mould us to Thy will. Give us strength to overcome every unholy passion. We commend ourselves to Thine unfeigned love this night. Whether we live or die, we are Thine, and we are under Thy providence forever. Amen.—William H. Furness.

—We must fight in our lives, and we must fight, but we do not fight it up; we do something waiting in ourselves, and we supply it, not by sewing the divine seed of a heavenly

principle, but by copying the deeds that the principle ought to produce.—Temple.

—Have you ever had your day suddenly turn something like a cheerful word? Have you ever wondered if this could be the same world, because some one had been unexpectedly kind to you?—Mabelle Davenport Biscoe.

—Love is always building up. It puts some one of us on every life it touches. It gives us hope to disengage our hearts from the work, new joys in the carrying, then, coming them to go on in life's ups and downs, without the cheer, they must have sunk down in their discouragement. Its words are benedictions. Its strength is to overcome every unholy passion. We commend ourselves to Thine unfeigned love this night. Whether we live or die, we are Thine, and we are under Thy providence forever. Amen.—William H. Furness.

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Fashion Notes.

Smart dresses are designed for smart girls, and the smart girls, according to present fashion, is very tall and—pudently thin. Instead of curves there are sloping lines and angles, hence are positively fashionable and emaciated almost to become a virtue. The waist line has been raised up to the shoulders, the skirt covers one like a shawl, and sleeves hang dejectedly from the shoulders. Altogether, the strictly correct woman whom we shall have with us next fall, when arrayed in her newest toggery, suggests nothing a rap—arises so much as a waif—thin as a clothes pole—until one becomes accustomed to the change.

• Diction will become necessary, and such exercises as are prescribed for reducing this "too, too solid flesh," but after all is said and done, the exercise will be most ruled upon, and time and money spent with one who thoroughly understands her art in time and money spent to advantage.

• Vell form important accessories to the up-to-date toilette, and there are almost as many varieties and as many ways of arranging them as there are people to wear them.

• Corsets are no longer the instruments of torture they originally were, even those bought from the stock in the shops, while a corset made to order and worn as a conscientious sister has designed it, is distinctly helpful, acting as a support for the back, and serving to hold the abdomen in place.

• Very smart skirt suits, or, rather, three-piece suits, are made with plaided skirt, and coat and waist of plain silk, matching the predominating color in the plaid. None of the plaids, as popular as plaids are, are at all aggressive, and those showing shadow effects are given precedence, even for children's dresses.

• Many of these plaided suits are made up with touches of velvet, cuffs, collar, belt, or vest, and in that case the accompanying gloves and hat are of the velvet shade, for not for a moment, in all the riotous display of colors and shadow shades, is the sense of harmony lost sight of in the ready eye costume, no matter what its texture or purpose.

• Many of the men and mercerized gowns show little vests of contrasting color or material, sometimes both, buttoned blindly or straight down the center, with self-covered buttons. Also, there are many beautiful embroidered skirts, which seem especially adapted for such trimmings, and they are not too expensive.

• Very few strictly tailored garments are seen, even the long-coated linen, such as occasionally appear, having rather an out-of-date look. Not but that long-coat suits are in good style, but this year's stamp on them is very distinctive. Invariably they show a touch of embroidery, of velvet or silk, and the coats are not as long as those of last season. Most suits of this sort are made up in fine materials, smooth serge or satin faced goods, in silk or the fine linen weaves.

• The separate skirt, although it has been superseded by the skirt-suit, is, nevertheless, shown in a number of attractive models, and its popularity is not likely to expire with the summer.

• For the warm weather one is infinitely more comfortable minus the face veil, unless one's hair blows about annoyingly, in which case the proper veil is a single-mesh net for evening and a single-mesh net for daytime wear. It is neither wise nor necessary to buy expensive veils—face veils, that is—for they soil more easily than we are aware of, and it is better to have fresh ones often. Thirty-five and fifty cents is a reasonable limit. In the matter of draped veils, one may be justified in allowing one's self more leeway, for there are so many tempting designs, and all are more or less expensive. The cotton varieties are warm and tulle too permeable, but one can now obtain a veiling which is a cross between the two, and

Cary M. Jones,

Live Stock Auctioneer, Danvers, Ia.

Thoroughly acquainted with individual merits and pedigrees, and have an extended acquaintance with the best breeders in America. Terms reasonable. Write me before claiming date. Office, 200 Bridge Avenue.

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Hardy Shrubs, Trees, Vines, Evergreens and Perennials.

A large and fine stock of well-rooted plants, grown in sandy loam. Good plants; best prices for planting, very cheap. Priced catalogue free on application.

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D. B. ROGERS,

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Have called sales in 14 of the leading States past season, selling for the best breeders in America. Terms reasonable. Write or wire for dates.

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PRIZE FOR REGISTRY.

To Members.—Male, \$1; female, \$1. Double fees for animals over one year of age. Transfers, if recorded within 3 months of date of sale, 50 cents each. Non-Members.—Male, \$1; female, \$1. Over one year of age, double fee. Transfers, if recorded within 3 months of date of sale, 50 cents each. All animals must be registered.

Life Membership, \$25.

Advanced Registry in charge of Supt. Houghton, above, who will furnish all information and blank forms relative to Registration of Pedigrees.

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Will compile catalogues of Friesian and short-horned. A breeder of Friesian and a life-long breeder of pure-bred stock.

WOODLAND NERFORDS.

Herd headed by the prize-winning Perfection 34 11/16, son of the 91/16 Dale and Bean Donald 34 1/16. This herd consists of the most noted cattle in the breed. Such as Melley May, the dam of the great Perfection family; Columbia, a sister of the great Dale; Bright 4th, dam of the 91/16 Miss Dale, highest priced 3-year-old heifer ever sold at public auction in the world; the 97/16 Orion, the highest priced 2-year-old of 1901; and others of similar breeding. Bulls and heifers for sale by the above great sire at all times. J. G. ADAMS, Newburg, Ill.

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Largest stock in America, including Colorado Blue Spruce and Douglas Spruce, Scotch Pine, Norway Spruce, etc. etc. etc. Write for catalogue.

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Poultry.

An Egg Breed.

If eggs are wanted principally, I would give this honor to one of the Leghorn class. It is probably the best fowl for the general keeper of poultry.

It is necessary to confine fowls more or less. The Leghorns take to this restraint more naturally than most others. They are less restless under it, and the little inconvenience does not seem to interfere much with their business, which is to produce eggs.

They go right ahead just the same, but if a range can be given them, they will do better. They accept the general idea of the country into which they have been adopted, that the main end and object in life is business, and that it is best to accept of it kindly.

They are naturally what is called wild, but as we understand that, we must move about among them slowly, not making any quick moves, and by this careful, general handling of the shell, they will climb all over us as freely as any fowl. While at the same time if any sudden moves are made they will fly, which is quite annoying. But as we understand this peculiarity we are accordingly remembering to be well informed more than half of success.

So that for a small home lot, the Leghorns come as near to what we may call the best as any we can find, and for a large number with unlimited range, I should say the same. They will probably produce more eggs to the number and eat less than any other.

There are five main families of Leghorns, the White, Brown, Buff, Dominique and Black. The last named is not desirable because it is small and has dark legs. Of the White, Buff and Brown Leghorns there are the rose and single combs, no perceptible difference otherwise. Of late years the Buff variety has made rapid gain in popularity.—G. M. Johnson.

Expert Killing and Dressing.

A poultry manager, pronounced one of the most experienced of market poultry in New England, in George May, until recently of Middlesex County, Ct., but who has lately accepted a position as manager of a large poultry establishment in New Jersey. By request Mr. May favors our readers with the following account of his way of dressing fowls and preparing them for consumers:

BETTER DRESSING WOULD PAY.

I will commence by saying that I am an Englishman, practically born and reared among chickens, and only came over to America in August, 1904. Nothing surprised me more than to find that the trussing and dressing of chickens, as we understand it to mean, was practically unknown here. To me this appears one of the greatest mistakes, as there are numerous books written by good experienced men, explaining how to breed and rear chickens, but most scarcely allude to disposing of the numerous culs one and all breed every year. This is where a great deal of what ought to be profit is absolutely ignored by letting the butcher have them for what he is disposed to give, instead of learning to dress the surplus birds properly and to get all that is coming instead of throwing away. To me this appears one of the greatest mistakes, as there are numerous books written by good experienced men, explaining how to breed and rear chickens, but most scarcely allude to disposing of the numerous culs one and all breed every year. This is where a great deal of what ought to be profit is absolutely ignored by letting the butcher have them for what he is disposed to give, instead of learning to dress the surplus birds properly and to get all that is coming instead of throwing away.

KILLING AND PLUCKING.
All birds intended for killing should be kept without food for twenty-four hours, but they may be supplied with water. My own idea is that by far the most humane way is to break their necks, as is done in England. In order to do this properly, hold the bird in the left hand by the legs, close to your left thigh, and with the right hand grasp the bird close behind the comb, then bend the head back and pull straight down, and the head will slip easily out of the socket, which divides the spinal cord and all the principal nerves; therefore the bird at once becomes insensible, which is very far from what occurs in some cases where they are cruelly bled, some in one way and others another, unless they are beheaded with the hatchet; my only objection to this is the great mess it makes. As to plucking we dry pick at all times, which is not so much trouble as one would suppose to those in constant practice.

TRUSSING.
or dressing chickens, is a very difficult thing to try and explain in writing. I would much rather give a practical lesson in public than even try to write how, but I will do my best, and if any of your readers will to grasp my meaning I would be only too pleased at any time to truss a chicken for them by their writing and sending on a chicken, carriage paid both ways.

In England we dry pick always, and then singe off the numerous hairs with a little methylated spirit. Some use paper, but if you do be sure to wait until you have a clear flame, or your chicken will be discolored by the smoke.

To commence have ready a strong knife, some good white string and a stout needle, about eight inches long, as I use no skewers; therefore after the chicken is cooked it is very easy to withdraw the string. First, take your chicken and place it breast down on the table with the head towards you, then with the left hand take hold of a piece of loose skin at the back of the neck, about two inches from the body, and then run your knife around the neck at the part where it joins the body, and with a twist of the left hand you can easily disconnect the neck from the body. Then take out the crop and cut off a part of the loose skin and with the part left you can hide the cavity where you have taken the neck off. Insert your finger and loosen the interior as far as you can reach, then stand your bird on its head, as it were, and take hold of the tail, or parson's nose, as some call it, and make a somewhat deep cut straight across, then insert your finger and pull out a loop of the bowel and then cut out the vent carefully, which is quite easy, and pass your fingers, or as I do, the whole of your hand, inside, and remove the entire point, thereby reducing the cost of marketing to the minimum, and also being better able to reach a number of markets. The choice of site is another important matter. It should be on elevated ground. Such a site presents two advantages: of soil and atmospheric drainage. Of these advantages the latter is the greater, inasmuch as soil drainage can be secured by artificial means. Cold air being heavier than warm air, settles in still weather into the lowest areas, as we have often seen, causing, upon such lands, persons like saying and early fall frosts. A comparatively slight elevation in location sufficient to accomplish perfect atmospheric drainage, particularly if the adjacent lower lands slope sufficiently to allow the cold air to gradually drain away.

the middle through the chicken, near to the backbone and over the legs and pull tight and cut off. Cut off the shank about two inches from the knee joint and your bird is finished. It may appear hard to follow, but when learned is quite easy.

PROFESSOR GRAHAM ILLUSTRATES.
By way of illustrating an expert method of killing and dressing is given the following account of a demonstration by Professor Graham at a recent field meeting of Connecticut poultrymen.

Taking the bird, Professor Graham hung it head down from a device that he has for holding the legs—which is virtually an iron rod with prongs at each end. Then from the chicken's mouth he suspended a can to catch the blood. Taking a knife he stuck it scientifically into the brain through the roof of the mouth, and in a few seconds the bird was ready for plucking. It was cleverly and cleanly done. There was no fuss or blood, the whole thing being accomplished without even soiling the hands. The method is to so touch the brain so as to produce the quick jump and forward throwing of the feathers, such as is seen when a bird is suddenly scared by a dog. Care should be used, however, in avoiding strangling in the operation, for when this is done the feathers remain lifeless. Professor Graham then showed the right method of plucking. This is holding the head and neck of the fowl behind the knee, and bringing the body in front and over the leg. The feathers are plucked with a little jerk, but should not be torn—the breast first, then thighs, and then the back and wings. A good dry plucker should be able to finish a bird in three or four minutes, and draw one in five minutes.

SHAPING.
Before drawing the bird should be put on a shaping board, with the wings caught in under the body. A shaping board is two planks nailed at right angles. The bird is placed on it so that the "popo's nose" is pushed in and lies flat against the under side of the carcass. This pushes out the breast, and is essential if a fine appearing fowl is desired.

THE DRAWING
was done by F. S. Gammasack, a poultryman who makes a specialty of preparing broilers, etc., for the best Hartford trade. Mr. Gammasack performed the operation like a surgeon, explaining meanwhile the different steps, like a doctor talking to a patient. In preparing a broiler, he first opened the chicken from the vent to the base of the neck. He then takes out the main intestines and organs, leaving the gall till the last. This follows, and then the bone at the base of the neck (which has previously been removed) is split. This allows the carcass to flatten out. It is then thoroughly cleaned, the neck is laid at the top, the heart on one side and the liver, etc., on the other. Then after it has been neatly wrapped in a piece of oiled paper, and an outer covering of tissue paper, and tied with a narrow blue ribbon, it is worth a dollar and a half, or three dollars, a pair. The operation takes possibly five minutes.

Horticultural.

Orchard Management in New England.

The management of a fruit plantation in New England is not essentially different from that in any other portion of our country, though practically in the same degree of latitude as the great fruit-producing countries of New York State, and of the Middle Western States, and raising the same kinds and varieties of fruits, we nevertheless have to do things on a smaller scale, due to the broken and often rugged character of our landscapes.

THE MARKETS.
However, I believe the possibilities of fruit growing in New England, conducted with the same degree of intelligence, and with the application of the rules and precepts laid down by our leading horticultural experts, are very great, for we have a population which spends more money for and consumes more of the comforts and luxuries of life than any people in the world. The markets are at our doors, and we have all conditions of soil and exposure, though not in large areas in any given tract, that are favorable to the fruits which are adapted to our climate, which are not excelled by those grown in any other section of the country. That many of our growers do not appreciate this advantage is evident, but this may be accounted for perhaps by the fact that we have more difficulties to contend with here, and that perhaps more skill, energy and patience are needed to produce profitable results than in some other sections.

As the apple is the backbone of pomology in New England, so, too, the apple, is truly the most perfect union of the useful and the beautiful that the world knows. From the time when nature begins to awaken in the springtime, sending forth its green leaves and fragrant flowers, until the tree is bending under its load of beautiful, luscious fruit, which is to contribute to the comfort and happiness of mankind, it is a constant reminder of the enormous energy which is stored up upon our sunny slopes and in our fertile fields, awaiting but the hand of man with the key of knowledge to direct these energies, and make them of the greatest usefulness to us.

NOT OVERDONE.
I would direct my readers especially to this in the consideration of this article: We have heard the talk for years that the apple industry is being overdone, and in some sections of large production it seems as though there might be some basis for such an assertion, but the fact remains that the average price per barrel is increasing, taking it for a series of years, and apples sell higher than ever when the crop is short and the times are prosperous. There will be years of cheap apples and years when prices will soar, but no patient, industrious grower need become discouraged over the average from year to year. It is simply a good business proving well in the long run, but requiring good management and constant attendance.

THE FIRST IMPORTANT POINT
to be considered in establishing an orchard is a location with reference to market facilities; that is, to be near one or more shipping points, thereby reducing the cost of marketing to the minimum, and also being better able to reach a number of markets. The choice of site is another important matter. It should be on elevated ground. Such a site presents two advantages: of soil and atmospheric drainage. Of these advantages the latter is the greater, inasmuch as soil drainage can be secured by artificial means. Cold air being heavier than warm air, settles in still weather into the lowest areas, as we have often seen, causing, upon such lands, persons like saying and early fall frosts. A comparatively slight elevation in location sufficient to accomplish perfect atmospheric drainage, particularly if the adjacent lower lands slope sufficiently to allow the cold air to gradually drain away.

More pronounced elevations usually give more marked results, however, and for this reason are usually preferred.

The pronounced minor elevations often present other advantages of temperature than those incident to atmospheric drainage. They offer various exposures, and they may be utilized as windbreaks by planting the plantation on the slopes opposing the severest winds. If they are near large bodies of water, they are usually more influenced by such bodies than more level lands, because more open to the movements of air from them; and as bodies of water tend to equalize temperature, to lessen late spring and early fall frosts, it follows that high lands near ponds and rivers are most desirable for fruit culture. We in New England do not give so much thought and attention to the subject of windbreaks for fruit plantations as they do in New York and other Western States, but as our native forests become cleared away the climate is changed and becomes more harsh; hence, if some natural protection is not afforded an orchard, it may be found desirable to construct some kind of protection from the point of most destructive winds and storms. However, the orchard should be beyond the reach of their shade and roots, and be well exposed to sun and air.

AFTER THE ORCHARD IS PLANTED,
care being taken not to place the trees nearer than forty feet apart each way, the land may be planted with some crop which calls for high fertilization and thorough

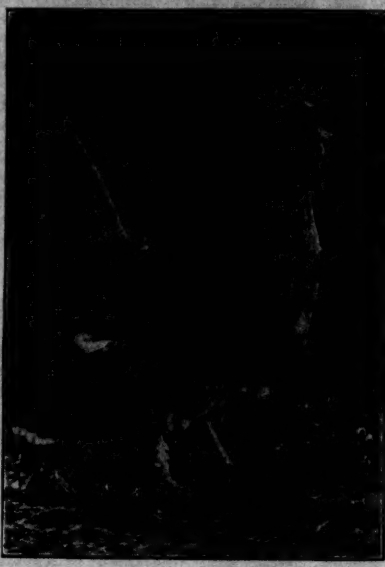
plowing before the first winter. Yet many people still look upon all these as young men who have but lately blossomed out in the world's affairs.

Lord Kelvin has just celebrated his birthday. Though one of the most eminent of the world's scientists, Lord Kelvin has a most modest view of his own attainments. He once walked through some electrical works, and asked a workman the simple question, "What is electricity?" "I am sure I don't know, sir," the man replied. "Well, I don't either," said Lord Kelvin. He said the other day that, though he had studied hard through fifty years of experimental investigation, he could not help feeling that he really knew no more than he knew when he first began.

The great glacier at Mont Blanc is being utilized. An ice trust has gone into the business on an extensive scale of quarrying the clear, hard ice of an altitude of four thousand feet. The ice is blown out in great blocks by means of dynamite, after which it is sawed into regular sizes and sent down the mountain sides on a narrow gauge railway.

The ministers of religion did not form a distinct order from the ancient Roman citizens, but were chosen from the most honorable men in the state. Some of the priests were common to all the gods; others were appropriated to a particular deity; of the former kind, the most important were the pontifex, the augur, the haruspex, the quindecimviri, and the septemviri; who were all subject to the pontifex maximus, or high priest, chosen by the people.

A workman in digging a mill-race in the Sacramento valley February, 1904, discovered shining particles of gold. A further search proved that the soil for miles around was full of the precious metal. The news flew in every direction. Emigration began from all parts of the globe.



BUFF LEGHORN HEN.

Winner 1st Pullet at Quincy, 1900; 2d at Reading, 1902; 1st at Quincy, 1903; 2d at Quincy, 1904; 1st at Toledo, 1905; 1st at Cleveland, 1906. Owned and bred by the Connell Bros., Quincy, Mich.

cultivation, then if it becomes necessary to rotate one's crops the land may be seeded in grass and left for a few years; but on the least appearance of decline or lack of a healthy growth, which should be from six to eight inches added to the ends of the branches annually, the land should be replowed and cultivated once more. Undoubtedly the quickest returns could be realized from an apple orchard if one had sufficient capital to keep the same under constant cultivation, but with most orchardists it becomes necessary to seed down for a number of years.

The time is surely not far distant when apple growing will be conducted with us under corporate management, with sufficient capital interested to insure attention to every detail which makes for the production of the highest grade of fruit. The cheap lands, the ideal climate and conditions which prevail here in New England offer every inducement to the investors of capital. While the returns may not be as quick as from orange or peach orchards, the risks are not so great, and the investment will produce returns for a longer series of years. An apple orchard is frequently spoken of as an old man's friend, meaning that a well-established and cared for orchard is good for a life time.

Hampshire County, Mass.
(Concluded next week.)



MISS MARIE VAN VORST.

Author of "Miss Deane," "The Sin of George Warner," etc.
Courtesy of The Macmillan Company.

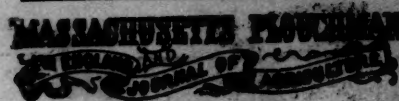
Curious Facts.

—It is rather interesting to know that a large number of bottles supposedly made of horn or bone or some such substance, which, when treated with certain acids, become almost as hard as stone. This quality of the potash salts it is to be used for, and a very good grade of bottle is now made from this material. The potash bottle cannot be distinguished from others save by a careful examination, and even then only by an expert, since they are colored to suit the goods on which they are to be used, and are every way as good looking as a bottle of bone or ivory.

In many of the Greek islands diving is a common occupation, and a considerable part of the occupation of the inhabitants. The natives make it a trade to gather them, and their income from this source is not far from considerable. In one of the islands a girl is not permitted to marry until she has brought up a certain number of sponges and given proof of her skill by taking them from a certain depth; but in some of the islands this custom is reversed. The father of a marriageable daughter however has on the best diver among her suitors. He who can bring up the most and bring up the largest amount of sponges receives the maid.

—Black cat kittens are to be seen in the streets of New York. It is rapidly becoming the style for great numbers to be kept in the city. They are very common in the city, and are to be seen in the streets of New York. It is rapidly becoming the style for great numbers to be kept in the city. They are very common in the city, and are to be seen in the streets of New York.

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TELEPHONE NO. 3707 MAIN.

Make milk while the grass grows.

Overwork is worse than overwork.

Fodder corn is the dairyman's best friend.

The well-manured corn field is wide awake nights and will grow while you sleep.

Dress according to your work. When the cat goes hunting she never puts on gloves.

A run-down farm and an inexperienced farmer is a combination that invites ill-luck.

Keep the head cool, the body warm and feet dry and let the doctor go elsewhere.

Make clover hay when the clover seed is in milk. Such hay will make full milk cans.

A better looking homestead means better values, besides a great deal more satisfaction to the owner.

Shack farming is one extreme and routine is another. Thoughtful thoroughness is the golden mean.

More than with other farm products, the price of dairy products depends on the ability of the producer.

The farmer's boy who likes to care for fruit and flowers will make a good husband. Bear that in mind, girls.

This is the "bearing year," but it looks as if any one who has good Baldwins will get a fair price for them.

Point out a farm where all the hands keep busy on rainy days, and there will be found a prosperous farmer.

Two hitching chains for each animal will aid in cleanliness, the chains being fastened to the stall a few inches apart.

Where was the historical painter when President Roosevelt and the hired man were getting in that load of hay?

The question arises whether outdoing deer in Boston harbor with a tugboat is to be described as hunting or fishing.

Your hay crop is short, is it, and it's too late to plant fodder corn? Then plant Hungarian if your land is fairly rich.

Hoofs and horns may make good eating, but we prefer them in glue and buttons, gentlemen packers of the millionaire rank.

The young man will leave the farm unless he has a chance to earn money of his own and to do what he likes with it. That is certain.

Postulantly speaking, every eye in Massachusetts is on the six young officers whom the Bay State has just added to the United States navy.

The aspirants for the Presidential nomination multiply so fast that they are becoming weeds, instead of flowers, and need to be thinned out.

Money is a great aid in making a start on the farm. But a young man can begin without it in this fully as well as in many other business ventures.

We have not yet seen the theory advanced, but isn't it possible that Miss Sutton's defeat was due to eating the wrong kind of breakfast food?

Judging by various reports of his co-operative village idea, Mr. Upton Sinclair will soon be in a position to write a new novel entitled "The Nursery."

Manitoba wheat is to be transported by both rail and canal, if James Hill has his way, and the Montreal Star threatens to meet him by bringing wheat East with automobiles and airplanes.

There is still more farming by the signs of the moon and such notions than should be in these times. Brains and sunshine are better than all the moonlight and magic ever discovered.

Many a practical farmer can give points to the professors and lecturers in some particulars. If your experience disagrees with untried theory, don't be in a hurry to conclude you are wrong.

Some of the weather of the past week might easily lead one to envy Adam his early Eden costume—until one remembers that the poor old gentleman never enjoyed the splendid luxury of letting down his suspenders.

Nothing is so refreshing after a hard, dusty day behind the hoe or sythe as a good cool bath. Fix up one end of the shed for a bathroom, and enjoy the best of nature's stimulants every evening during the warm season.

The first act of the general congress of socialist interparliamentary committees in London was to shut out the newspapers—which would seem to hint that the first act of a socialist state of society would be to establish a censorship.

The Pearson system of curing tuberculosis by a kind of vaccination process seems to be a success. The cattle which are treated seem to be safe against the disease. The next stage of the problem is to test the plan upon human beings.

Joseph Jefferson's will, lately filed in Chicago, bequeaths his "best Kentucky reel" to Grover Cleveland. Thus speaks one worthy fisherman to another, for the reel is said to have been among the actor's most cherished possessions.

Thirty-eight Chinese students have just arrived at the Harvard summer school from China. Now let all of us combine with Harvard in giving them a good impression of the country by not staring if they should come into town on an errand.

What is the best harvest drink? Some prefer simply cool spring water, while others are fond of lemonade, molasses or honey and water, or root beer. Less attractive in flavor, but more substantial and refreshing, is a beverage made of cold water flavored with uncooked fine oatmeal. Try it.

Canada is likewise getting express companies under control, and henceforward the rates will be in charge of a government commission, the same as freight charges and passenger fares. The taming of the express companies in both countries of North America is a great triumph for shippers and receivers of miscellaneous products.

Justice in Ithaca, N. Y., has found an interesting solution of the problem of punishing juvenile lawbreakers whose parents are too poor to pay fines. There were eight delinquents, and the court handed their mothers in turn a nice stick, and looked on grimly while the offending offspring were properly disciplined.

Once more the question of Jonah and the whale brought to light again by a brave clergyman, who rises to explain the miracle by a big fish, especially made to swallow Jonah. But why the "big fish"? If the reverend gentleman can swallow Jonah, certainly an ordinary whale should have been able to.

So far as funds are concerned everything is now fair sailing for the erection of a suitable memorial to the Pilgrims at Provincetown. Nothing remains but to decide on the memorial, and it is very much up to the committee to make it something artistically worth waiting for. Unlucky memorial, of which the world already has far too many, are the worst kind of compliment.

The Mayor of Milwaukee proposes to hold boxing matches among the other entertainments to raise funds for the new auditorium. Boxing matches, indeed! The headlines have already raised them to the strenuous dignity of prize fights, and it is only a step further to excited editorials showing startling parallels between the Mayor of Milwaukee and Nero himself.

The few Boston exponents of the art of tattooing will probably learn from the recent fate of a brother artist in Gotham not to tattoo under false pretenses. The New York artist, it seems, got into trouble with the police because he caught clients by telling boys that the process would make them strong. Had he been one of our local artists we presume that he would have told them that it cultivates the intellect.

Meantime, one of the results of these private ice companies will probably be that the promoters will make surprising discoveries regarding the actual expense of running the ice business. Few of them apparently realize that ice is a perishable commodity, and expensive to the farmer himself in proportion to the distance which he has to go for it after an open winter has eliminated the local ice harvest.

News comes from London that enthusiastic cheering marked the passage of the musical copyright bill through the House of Commons. The bill is intended to end the pirating of music and to insure the protection of foreign composers. We are glad to note anything anywhere that protects anybody—but what we should also like to see in this country would be legislation to protect the individual citizen against various noises that are only called music for want of more exact definition.

The new railroad rate law goes into effect Sept. 1. A feature of special importance to the shippers of farm products is that part which includes express companies within the regulating power of the Interstate Commerce Commission, and provides that all carriers, including the express companies, must establish thorough routes and just and reasonable rates. If these provisions are properly enforced against the express companies, it will be new times for shippers, and the present tangle of rates and conditions will be straightened out in some reasonable way. The policy of the express companies, who have really acted as a trust, although in name separate concerns, has been to give out nothing either to the public or stockholders, keeping their affairs even more secret than does the oil monopoly. This new plan of control by the commission will place them in the same class as the railroad freight companies, and bring them under due control. Up to this time they have refused to publish their rates or give them to the Interstate Commerce Commission, but can pursue this policy no longer. No change can be made on the schedule without thirty days' notice, and this notice must be filed with the commission. The new law places private rail lines under similar regulation, a matter which is also very important to the long distance shipper of perishable produce. On the whole, the new law promises to be one of the best things ever enacted for the produce trade.

Shippers and serious fault with the present system of selling butter in large markets like New York. Prof. G. L. McKim of the Iowa Dairy School thinks some of the methods adopted in handling New Zealand products might be used to advantage in this country. The butter in New Zealand is shipped to a central place, where it is rated and scored by an expert, and sold according to the grade made by the inspector. Even the buyers seem satisfied with this method, and there is little chance for unfair treatment of sellers. Professor McKim cites an example where the make of a creamery was divided into two lots, one actually alike, one shipped to New York under the name of creamery and the other under another name. The butter was made by an expert, but was scored only 87, the same figure that the butter had been receiving under the regular management. The lot which was shipped by another name was graded by the same firm five or six points higher. The indignation is either that the firm had been undergrading the product of the creamery, or that it had overgraded the shipment from the new producer in order to secure his trade. Such occurrences would not be possible if the product were graded at a central point near the place of production and paid for at shipment. The Canadian shippers have adopted this plan and get the money for their butter before it leaves the shipping station. This plan would tend to do away with the premium business, as well as some other abuses of the butter trade as now carried on in this country.

While the Sile.
The exact process which goes on inside a silo does not seem to be fully understood, and, according to Dr. Fear of the Pennsylvania Experiment Station, the substances produced are not like those brought about by yeast fermentation, and there is little or no alcohol in silage. The peculiar taste and smell are produced mostly by various acids. If the subject is to be considered settled, then it must be admitted that the stimulating effects of ensilage on milk production are in no part due to alcohol, as had been supposed by some, but are caused

by the juicy character of the food and its approach to natural conditions. It also disposes of the notion that silage might be used in the production of fuel alcohol, as some people seem to have imagined. This fact should be a warning to the way, seems to have given rise to quite a number of odd notions. It was naturally predicted that any farmer could establish alcohol distilleries with slight trouble and expense, and make his own source of fuel, light and power. As a matter of fact, the regulations attending the new law are likely to be such as would confine the business to large establishments, which can be properly and conveniently inspected by the revenue officials. The margin of profit even for the large concerns is likely to be a narrow one, and there would be no profit in carrying on such an industry under farm conditions. The abundance of the materials which can be used for alcohol making will be sure to cause enough competition to keep down the price.

Potato Prices Again.
Everitt of the "Society of Equity" is still talking about the scheme to corner the potato market. The main part of his reply to the PLOUGHMAN's recent criticism is given herewith for sake of fair play:
"Does not the PLOUGHMAN believe that, should any branch of American farming be threatened by foreign cheap labor, the Government would be as kind to its farmers as it is to its manufacturers? If the dire calamity should come which the PLOUGHMAN predicts, does it not believe the Government would come to the aid of its potato growers as it came to the aid of its clothing and implement makers even before any calamity had come to them? Does not the MASSACHUSETTS PLOUGHMAN know that there is already a tariff of twenty-five cents on every bushel of foreign-grown potatoes, which must be paid before they can be placed on sale in any United States market? And does it not know further that this twenty-five cent advantage and the cost of importation will protect American growers in an equitable price? Does it not know still further that the reports, not very long ago, of heavy importations of foreign potatoes into the United States, and the fact that a story concocted by speculators to frighten American farmers into dumping their potatoes upon an unprofitable market?"

The imports of foreign potatoes are very far from being a myth, as any wholesale dealer will testify. Shiploads of German, Scotch and Irish potatoes are rushed over here whenever the market shows a profitable opening. There is scarcely a limit to the imports so long as the price in the United States stays high enough to offer a margin above the cost in Europe, the duty and the freight. An artificial rise caused by holding back the crop would simply increase the imports, and the latter end of that market would be far worse than the first. Small prospect that the tariff could be increased. Any sustained attempt to corner the home market would be likely to cause talk of a "potato trust," and perhaps start a counter movement to out out the potato tariff altogether.

A Deserved Tribute.
The tribute of the trustees of Perkins Institution to Michael Anagnos, late director of the institution, was as deserved as it was appreciative of his eminent services in advancing the education of those who were without sight, and were sometimes without hearing. He advanced and perfected the teaching of Dr. Samuel G. Howe, his father-in-law, whom he succeeded, and this in such quiet and unostentatious manner that the public was hardly aware that any improvements had been made in accordance with later day progress. Dr. Howe was the inspirer of Mr. Anagnos, and it may be truly said that he bequeathed the instructions of his philanthropic and devoted teacher. For nearly forty years Mr. Anagnos was connected with the Perkins Institution, and it had his general direction for three-fourths of that time. Under his immediate oversight it grew in prosperity and usefulness, particularly in the way of industrial training for the blind, which has been begun by his eminent predecessor. They both labored earnestly and untiringly to make those in their charge something beside helpless burdens upon the community—that is self-respecting and self-sustaining members of society.

The trustees say that their intercourse with Mr. Anagnos was far more intimate than the formal relations of authority and counsel, and led to a friendship in which there was a mutual devotion to the promotion of the welfare of the afflicted.

Mr. Anagnos was an adopted citizen of this country, and he never forgot the fair land of Greece, his birthplace, in his struggles for freedom. Indeed, his patriotism brought him to the attention of Dr. Howe, noted for his effort to secure the liberty of the Greeks. Both would go down to posterity as public benefactors, who had no selfish motives in their labors to brighten the lives of many who would have remained in mental, as well as physical darkness, if it had not been for the philanthropic endeavor. They have won a warm place in the hearts of a sympathetic people.

Sympathy is extended by the trustees to the family of Dr. Howe, with whom Mr. Anagnos was intimately connected, and to his own relatives in Europe, and to his friends and the friends of civilization and education everywhere, and they ask their co-operation hereafter. "In some fitting memorial of the life and illustrious career of Michael Anagnos, the true friend of all good causes, and the benefactor of that large class of our countrymen who are lamented with us his unlooked for removal from the scene of his manifold activities." That this recognition of the services of Mr. Anagnos will be a fitting one there can be no doubt. All worthy people will be eager to honor the memory of a man who labored so unselfishly, modestly and devotedly for his kind.

A Timely Report.

The revolution made by the State Board of Health in its report on the result of its examination of the canned meat and product is startling. Some of the Western packing houses deserve to be legislated out of business if these conclusions are correct, and if their owners could be obliged to eat their own products for a year or two their punishment would be none too severe. The wrong that they have done many poor struggling people by selling them impure, drugged and unwholesome foods can hardly be over-estimated. The numbers of these canned goods are, to a great extent, people who do light house-keeping, and who have to consume in every way to make both ends meet. Many of them are what are called roomers, single women, who, after a hard day's work, have to prepare their not over plentiful meals in narrow quarters. What these poor struggling people use in the way of food should be wholesome and nutritious, and not the miserable refuse that is often sold under the name of the unprincipled man whose sole ambition seems to be the attainment of

the positions of multi-millionaire—roomers, who may tempt on the part of their pleasure to secure their own financial advancement.

Nothing could be more un-Christian than the work of these men, as shown in an analysis of the stuff that they send nearest over the land for consumption by trusting people, whose lot is hard enough at best without being made more trying by impositions that destroy their health and shorten their lives. It would seem as if some men in the West were greater brutes than the ones they slaughter, and that they had stifled conscience entirely in their greed for gold, and become beings without principle or heart, despoilers of the poor and corruptors of the well-being of the whole community by their promotion of disease.

It is gratifying to know that in their investigation the Board found little to condemn and much to commend in the canned goods sent out by the packers of Massachusetts. One of the oldest firms in the business was shown to be noticeable for the excellent character of its products.

Many of the plants, too, were found by the Board to be conducted with a strict regard to sanitary requirements, particularly the larger ones, but there was great room for improvement in some of the smaller establishments. One of the worst of these is situated, we are told, within ten miles of the State House. The odor from the establishment is allowed to decompose there, is exceedingly offensive, and the drainage runs over the surface of the ground.

The cry for reform in the packing houses has come none too soon, and it is to be hoped that it will be continued until a national disgrace is wiped out. Of course, the untrustworthy packers have defenders. So had the British government during the Revolution, and so had the institution of slavery before the Civil War and after.

Fortunate Seed Selection.
A Colorado cantaloupe grower has made a valuable discovery of a rust-resistant melon, which promises to be of immense value to the Rockyford cantaloupe industry. It seems that he had planted patches of the melons from seed obtained from five different seedsmen. Rust attacked the melon patches just as the fruit was ripening and all of the crop was destroyed save one particular patch of those grown from the seed of one seedsman. Many of the hills of this strain of Rockyford seed remained green throughout the season and produced a good crop of melons. A quantity of seed from the rust-resistant hills was saved and afterward planted in comparison with ordinary seed. The experiment, in reporting his results to the Department of Agriculture, stated: "On the rust-resistant hills melons were hidden under a healthy growth of vines, and were solidly netted with thick, firm flesh, and small seed cavity completely filled with seed. On the rusted hills the plants were almost devoid of leaves, and the small melons were prematurely ripe with thin, watery flesh, large open seed cavity, and practically of no market value."

This strain of seed shows that some years ago a seedsman had saved the first seed from a healthy melon taken from a field of rusted vines, so that this most valuable type has been developed by the small process of saving seed from the best melons produced by plants which withstood attacks of rust when surrounding plants were destroyed by this disease.

What this one farmer has accomplished with this one crop can be followed by other farmers with not only the same but other crops, if they will be alert, while the crops are growing, to select and mark individual plants which show exceptional traits along the lines of prolific yield, early maturity, resistance to disease or other desirable quality, and save the seed separately from the plant showing such qualities. No one is in better position to notice these exceptional plants than the farmer, for he is in his fields, garden or orchard every day where these exceptional plants are produced. If one plant in a rust-infested wheat field is green or free from the disease, that is a plant to save seed from, as the basis of rust-resistant strain. If one hill of potatoes in a blighted field remains uninfected from disease, seed from that hill may produce a blight-resistant variety. If a squash plant is found that is distasteful to the squash bug, seed from that hill may produce squash vines which the bugs will not molest. The important fact should be noted that some plants are more resistant to disease and insect attacks than others. It is only a question of the farmer keeping his eyes open and seeing the resistant plant and propagating from it. The individual farmer has as great opportunity for doing this as each seedsman; in the aggregate, much greater.

Market Tomatoes.
In the cultivation of tomatoes we ridge the ground; we plow up to them, and make a mound fully ten inches higher than the space between the rows, and that over a distance of perhaps 2½ feet, which gives a nice ridge over which to lay the vines. We don't let the vines sprawl around; we go around and take each vine and lay it right out where it ought to be, a man on each side of the row; and then if the vines grow too rank—too much wet weather or too much manure on the ground—take a sickle and cut those tops off, two men on a row, one on each side. That enables the fruit which is set to mature early. We don't care anything about the late tomatoes we set the plants especially for that.

The variety which I have used has been Livingston's Perfection. I have tried a number of other varieties, some proving quite satisfactory and, perhaps, as good as the Perfection, but the Perfection has been good enough for me. Strains vary; you may get a strain of one variety that would be worth twice as much as another strain.

The Clark Hay Crop.
The reason has been cold and backward; for that reason the total weight is somewhat less than it otherwise would have been, especially in alfalfa, which is a hot, dry-weather plant. Again, last winter was a hard one in this section for all kinds of grain and grass. Some fields met midwinter growth and were badly injured, but mine, through the winter all right; in fact, they thrived. I do not think that in twenty years I have lost a rod in winter killing. Many said alfalfa would be killed, but it came through the winter all right.

My eleven acres of Timothy and redtop produced the first crop this year, sixty-one tons, total weight 58½ tons, four acres of which were seeded Sept. 10, 1905, and cut June 21, 1906, eight months and fifteen days from the time the seed left the bag, 40,000 pounds of dry hay, over five tons to the acre; 2½ tons of alfalfa cut June 10, gave one ton to the acre. The second cutting will be made about July 12, thirty-two

days from the time of the first cutting. I think there will be at least 1½ tons to the acre, second cutting. Present outlook is that it will produce a full, increasing crop every thirty to thirty-five days. I shall look with interest to its rise and progress and think it will produce four crops this season, possibly five; I am doing the best I can to make it produce a large growth. I would not advise my farmer brethren to rush into the crop, but I think that some of the present waste land in this eastern country can be utilized in the production of alfalfa. I personally know of thousands of acres of alfalfa in the arid regions that have been cultivated by the use of an outway harrow. Every third year, adding a little more new seed, these fields have been thus treated for fifteen years, and to my certain knowledge are better now than at the start.

The Outway Harrow Company have shipped thousands of these outways to the Western coast for this purpose. Any intense outway harrow will do the work, but the looked jointed pole double action outway harrow is by far the best. Any one that will send me a two-cent stamp I will tell him it is done.

WATER SUPPLY

A wholesale of standard make, and that's sure to be satisfactory, will cost you but little more than the other kind. Our

Steel and Wooden Wind Mills

are world famous. Colossal Fairbanks steel mills, Jager Rollins wooden mills. Let us figure on your water problem. Water pumping with wind or other power is our specialty. Will attend to the whole job from start to finish and be responsible to you for results.

Full Line Water Service Appliances
including Gasoline Engines, Pumps, Tanks, Pipe, Tank and Wind Mills, Towing, etc. Consistent mechanical service ready to go out and make estimates when requested. Catalog free. Write for it.

Chas. J. Jager Co., 291-293 Franklin St., Boston, Mass.
Providence, R. I. Office, 65 Canal Street.

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Southern New Hampshire.
This has been a rather wet season here. Most crops are looking well. Corn is good, of fine color and growing fast, for the cool weather, especially ensilage corn for silo use. Leaning and Golden Beauty are the varieties mostly grown here. The use of planter, weeder and pruner has greatly assisted in caring for this crop. Some acres are almost a failure. Many lots were slow in coming up, and now rust is prevalent. Most farmers are cutting them green for forage use.

There is a rise of ten cents a bushel here in the market. Potatoes are excellent, with most places in full blossom. The beetles are quite thick. The most common method of dealing with them is a mixture of bug death and paris green, twelve pounds of the former to one of the latter. There is promise of an early crop in some fields. Probably in two weeks some will commence to market. Wholesale price for old potatoes ninety cents; retail Southern per peck, fifty cents.

There is promise of an abundant hay crop, although the grass is not thick, as one might suppose from its height this season. The farmers in the Connecticut valley are about half through haying on an average, while there are few places out as yet on the hill farms. Our summer visitors are again in evidence and beautiful Lake Spofford is populated with its summer colony. There are quite a large shipments of stock at Hinsdale, N. H., and Brattleboro, Vt. They average about two carloads a day at each station, hustling agents of the Boston markets bidding against each other each week. Competition keeps prices at a fair level. Butter sells at eighteen to twenty-four cents; eggs, twenty-two to twenty-five cents; fowls, twelve to fifteen cents; pork, 7½ cents; veal, six cents; oats, fifty-five to sixty cents; hay, \$20 to \$22. Farm help is scarce at any price. A laborer in haying gets \$2.50 and \$2.75 per day.

Chesterfield, N. H. H. G. S.

Nature's Prize Offer.

Kate Sanborn, in her bright and amusing little book, "Adopting an Abandoned Farm," describes how, having become enamored of country life, and having determined to make a trial of it, she succeeded in renting a place at the phenomenally low figure of \$40 per year, for five years. And then she did it even better. My large sale rent free to parties desiring it. Speak English, French, German and Low German. Phone—Office, 24; residence, 312.

At first thought it would certainly seem to be quite an unheard of thing for any owner of a farm to offer a prize to any one who would be willing to occupy it, but the more we come to think of it, the more we are compelled to admit that, as a matter of fact, a prize is offered to any one and every one who is willing to become a farmer and spend his life in the cultivation of the soil, no matter who he may be.

Dame Nature, the original owner of all the farms, far and wide, is making the most attractive offer, and it is open today, and to you, and you will most assuredly miss one of the opportunities of your life if you allow it to pass without availing yourself of it. It will be one more opportunity thrown away, and few men have any to spare.

Any man who is willing to turn his attention to agriculture will surely be rewarded, sooner or later. This is a truth beyond dispute. To be sure, the reward given may not be just such as is expected, or given in just the way anticipated, but it will come.

Says the witty Tom Hood, "Grow your own cabbage. And if you wish a gray head, cultivate carrots." There is plenty of meaning in his words. One who devotes his time to the farm may sacrifice some of the gay distractions of metropolitan life, but he will be pretty sure to live to the time of life when the hair silver, and to carry his life head lightly, too, with honor and content, among his neighbors.

What trials and anxieties and business vexations he will have compared when he turned from the city to the country he may never know, but he may rest assured that he has done nothing foolhardy or ill advised, otherwise nature, the great judge of what best becomes us, would never offer such inducements as she does for so doing.

Roxbury, Mass.

Green Peas on Wet Land.

The grass is very light on the river farms, while on the well-kept hillside farms there is a heavy growth. In June the hillside grass on our farm was the best hay had seen. This will go to show what can be done with soil that yielded so little to nothing a few years ago. Farm help in scarce, but plenty look to mills.

Townsend, Vt. R. M. C.

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Aberdeen-Angus.

Extra choice bulls for sale—bred for the great International Fair, and ready to ship any day, living or dead, of any breed in America. 150 choice cows and heifers.

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ABSORBINE, J. R., for manning, skin bottle. Cures Sprains, Wounds, Bruises, Strains, Gout or Rheumatic Deposits, reduces Yellows, Yellows, Itchiness, Allays Pain. Book free. Genuine info. only by W. F. Young, P.D.R., 41 Monument St., Springfield, Mass.

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No matter what kind. Even a FLUG improved.

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make blood, add flesh, act on kidneys. Two weeks treatment, \$100, at any druggist or by mail. Dog or Horse Book free if you mention Mass. Ploughman.

DR. A. C. DANIELS, 172 Milk St., Boston, Mass.

Lameness

Small Success on Bone Spavin. Dr. R. J. Daniels Co., Rochester, N. Y. Dr. R. J. Daniels Co. have been using their Spavin Cure with success on a horse that had been lame for years. It was cured in ten days. The cure is simple and easy to use. It is a sure cure for all kinds of lameness. It is a sure cure for all kinds of lameness. It is a sure cure for all kinds of lameness.

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The Workbox.

As every one who has lived in England knows, Devonshire cream is a favorite English dish and a delicious accompaniment of fresh berries, preserves, blancmange and English tarts. It is sometimes spread on plain cake, and also, like butter, on thin slices of fresh bread.

Devonshire cream is sold in great quantities in London, but the kind sold there cannot be compared with that served in the country homes of Devon and Somerset. In the natural state it is a soft, creamy mass, almost moist with a good deal of liquid cream, but in packing it is pressed down and hardened during transportation until it is of a cheese-like consistency. It is made as much in Somerset as in Devonshire, and the cream of the latter is much better than the English housewife whose home is near the northwesterly skirts of Devon, in the "Lorna Doone" region:

Put milk fresh from the cow into a large tin pail and put the pail into a cool place. Let it set for twelve hours. At the end of this time put the milk, without removing the cream, on the back of the stove, and let it simmer for an hour, stirring constantly. After that, put it in a cool place again. Let it set, again, this time for twenty-four hours. Then skim the cream, which will have formed in thick lumps. This thick cream, to be true Devonshire, ought to be prepared over a peat fire, and thereby acquire a flavor of peat smoke. The milk that remains in the pail after the cream has been skimmed off is good for cooking, and may be used in rice and other puddings made with milk.

In cold weather Devonshire cream may be kept several days, and the longer it stands the richer will it be. The milk should not boil, and the slower it comes to the boiling point the richer and better the cream. Some housewives, instead of putting the pail or pan containing the cream on the back of the stove, put it in a larger pot, and set the pot on the fire, so that they get the pan toward the front of the stove, and let the water boil around the milk until the milk grows thick.

Tradition has it that Devonshire cream was originally a special favorite of the

Time for Study and Sleep.


Mothers know that the new-born infant will sleep about twenty-two hours, and that this amount is so slowly lessened that he will still demand twelve hours when he is about twelve years old. It is quite likely that the normal amount is not reduced until the hours until about sixteen years of age are nearly equal until twenty years. Nine hours may be required until well along in years.

To let boys of fourteen sit up until ten o'clock at night and then rout them out at six o'clock in the morning is nothing short of criminal, but it is a long-established custom. Lower animals can be quickly killed by depriving them of sleep—the boy is not so hardy, but the physician so exhausted that he is unable to resist to himself the fatal mistake, forgetting that a tired brain never absorbs anything. The midnight oil frequently represents wasted time and money and the student sleeps during the next day. A good test of exhaustion is the inability to sleep during a dry lecture—and this is a joke.

Experience has proved that those who retire in time to sleep at least nine hours, or occasionally ten, get far more out of their course than the "grinds." Some of the best men habitually take ten hours. Theoretically a student should be as fresh at the end of the term as at the beginning—this is a reason for another purpose than sleep. The whole subject, therefore, is so new to the layman who do the damage to school boys, particularly in boarding schools, that there is urgent need of wider publicity and much discussion for enlightenment. Not only will proper sleep permit more to be gained for less effort, but it will prevent the exhaustions which so frequently follow school courses.

Physicians might suggest mothers that it is better to permit their children to sleep away from school than to have any symptoms should wake in the morning, or, if they are not in time for school, to do not retire early enough. For very old

This image shows a large, dark, rectangular area that appears to be a redacted page or a very dark scan of a document page. The area is mostly black with some visible noise and texture, suggesting it might be a scan of a physical document. There is no legible text or identifiable figures within this area.



VILLAGE AT PARAGON PARK.

cleaning porcelain than sandoaps. Many of the stains on porcelain tubs, washbasins and sinks are caused by allowing them to be injured. When new porcelain is smooth and is rubbed with sandoaps it becomes rough, and it is quite impossible to remove the discoloration.

A good scheme in buying children's underwear is to select the drawers without seams up the back. When the knees begin to be worn cut off the drawers just above the knee, sew them on again, putting the worn part underneath the knee, thus making them last almost twice as long.

A new whisk broom is excellent to use when dampening the laundry. Another device is an

small onion and a carrot and let it boil until the meat is ready to fall off the bone. Take the meat and hash it fine and return it to liquor after it is strained, and give it another boil until it jellies. Add salt, pepper, the juice and rind of a lemon cut fine, then pour into a mould. Put it into a cold place. It makes a nice dish for lunch or tea. If the knuckle of veal is large, use three quarts of water, if small two quarts and let it boil slowly three or four hours, or until it is reduced to about half the quantity of water put in.

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Secretary—J. J. Homberg.

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Pure Jerseys: To members, \$1 each head male or female. To members of the Club head double fee. All animals over two years male, \$1 each. Imported animals, \$2 each. Animals under two years old, \$1 each. Transfer price with \$6 per year, \$1 each.

Price of Herd Bookers: \$1 per Single Volume; Two Vols. of Jersey Cows, including all tests recorded, \$20; Jersey Bulls, \$10; Jersey Cows, \$10; Private Herd Record, \$25; \$25 per head of cows, \$10; \$10 per annum; \$1 Focker Herd Record, 12 months, flexible binding; \$10 per annum; \$10 per annum of Cattle Tests from Aug. 1, 1895, to July 15.

The By-Laws of the Club, giving full rules to which is

mailed for application.

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SHEEP POWERS.

For Sheep, Dogs and Goats. Will run hand Cream Separators, Churns, and other light farm machinery that can be run by hand. Safe, Strong, and Low in price. Send for circulars. Also Round Silos, Ensilage Cutters, Manure Spreaders.

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A Smart Jumper

They are interesting, require much training, yet with all their brilliancy of action are very helpless. Constant attention is necessary. A saddler must be well groomed. Nothing finer for his skin or his coat than Glycerine, a stable blessing. Bathe with a sponge. Makes a delightful strengthening rub-down. Supplied by

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Domestic Hints.
FRUITFUL LEMONADE.
Boil together two cups of sugar and one pint of water for ten minutes. Let cool and add the juice of four lemons, and strain through a fine sieve. Put in a quart of lemonade. Let the mixture stand for two hours, add a quart of water and serve at once.

CHICKEN POTATON.
Required: Potatoes, breadcrumbs, salt, pepper, oil, butter. Chop one large, well-shaped



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for INTERNAL and EXTERNAL use
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New England's Most Valuable Remedy

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The latest fashionable fad is the pinching a pet cat. They are not often allowed to roam with their owners as kittens intended them to, therefore they cannot exercise their instincts in proper manner and their bodies suffer. A cat must have food, therefore, necessary, and the Walnut Cat Food is the best for them. A cat is a predatory animal. They thrive on a diet of meat, fish, and fowl. They are fond of eating and drinking, and digest the food to be of aid to them. It is a great pity that so many cats die of starvation. Very generally, the cat is a domestic animal, and a pet. For old cats, it gives them life and appetite.

Poetry.

BESTOWAL.

We walked the blossom mares dreamily,
What time the day had reached its crimson close,
When she, with gracious smile, bestowed on me
A wondrous flower, the garden's fairest rose.
My wish—she might have read it in my eyes—
Was not for worldly power or place or pelf,
But that she would bestow, in kindred wise,
On me the fairest rose of maidens—herself.
—Clinton Scottland.

ARGUMENTS.

I hate to do arguments
That happen day by day.
I don't understand 'em,
But I like 'em anyway.
It's just as good as meeting,
As it makes me want to shout
To hush dem big an' soundin' words
Jes' come a-pourin' out.
I don't care what the subject is,
De man dat hab de gift
Kin talk about it in a way
Dat gives yuh soul a lift.
My feelin's keeps a-shittin';
It's kind of curious how
My sympathies is allus with
De man dat's talkin' now.
—Washington Star.

SONNETS.

There's a whisper in the branches of the heaven
rearing pines.
And a purple blossom smiling from behind the
clinging vines;
There's the chatter of a chipmunk, as he leaps
from tree to tree,
While the daisies yonder whisper: "Come out
here and play with me."
There's a path, a winding ribbon, just the clover
fields beyond,
That goes stealing through the meadows to the
distant picket pond;
There's the cool, dank, grateful shadows; there's
the lark, drooping bee,
And I fancy them a-saying: "Come out here and
play with me."
There's an orchard where the fragrance of the
fields come blitting sweet,
Where the sod is velvet tenderness to pavement
weary feet;
There are songs, without restraint, from song-
sters winging their flight,
And each feathered throat is singing of its song
at me and you!
There's a quaint, old-fashioned garden with its
peas and hollyhocks,
And its blushing, loving roses, timid pansies,
flaming pinks;
And a sweet old-fashioned lady, with a blossom
in her hair,
Winding in and out among them, watching every
one who enters,
And the dear old-fashioned lady, with her crown
of wavy snow,
Heams a smile and hums a love song as she pat-
ters to and fro.
And it's oh, so sweet—the dreaming! They're
so much of life apart,
For they're somehow found a dwelling here
within a rugged heart.
—Milwaukee Sentinel.

HERB PUMPS.

They call her herb pump,
But still she wears them to see;
Borne lightly as such minor woes,
Because she knows they're in style.
She fears they make her feet look long.
She hopes they make them look quite slender,
She thinks perhaps there's something wrong,
She knows they pinch in places tender.
But all the girls are wearing them,
And custom cannot be neglected;
Should she the tide of fashion stem?
Oh, surely, that is not the deed.
With smiling face, but not pain free,
Most cheerfully she wears her pumps.
None but chiropodists e'er see
Those humps.
—Indianapolis News.

IF KNOCKING PAID.

If knocking paid, boy easily
We might win freedom from our cares!
The problems that are hard for me
Would soon be trivial affairs;
I'd live in luxury and own
An auto of the highest grade;
With all my troubles overthrown,
I'd shout for joy, if knocking paid.
Of all the things that people do
I row the easiest, by far,
Is finding that the world's a-saw,
And knocking at the things that are.
The lazy man who turns his gaze
A thousand times upon the clock
And dawdles meanly through the days
Is never too inert to knock.
The one who labors all day long
With bristling arms and all his might
Finds that so very much is wrong,
And, oh! so little that is right!
If knocking paid, his wife could wear
Fine gowns upon her soft, white hands,
And there would be a palace where
His poor, unpainted cottage stands.
Alas! that what is must be so,
That all things are not otherwise!
This world is but a vale of woe,
Where man must languish till he dies.
The easy things are not the kind
That cause the cares we bear to fade,
I do not doubt that we should find
It hard to knock, if knocking paid.
—Chicago Record-Herald.

Brilliant.

The Sabbath sunshine blessed the earth today
With large, still utterance of a thought divine,
Forever freely thus it seemed to say—
Doth heavenly love on human darkness shine;
O bright beyond all suns that wondrous light
Of Thine.
Tonight, the Sabbath moonlight, with white
wings,
Dove-like, doth brood o'er earth's dark, re-
vered breast;
So God's great calm gift of healing brings
To souls long-tossed in sorrowful unrest,
And leaves therein the peace that cannot be
expressed.
—Quiet Hours.
Lord, grant us wills to trust Thee with such aim
Of hope and passionate craving of desire
That we may mount aspiring, and aspire
Still while we mount, rejoicing in Thy name,
Yesterday, this day, day by day the same.
So spurs fly upward, scaling Heaven by fire,
Still mount and still attain, not yet draw
nigh.
While they have being, to their fountain fane.
—Christina Rossetti.
"Life shall on and upward go;
The eternal step of progress beats
To that great anthem calm and slow,
Which God repeats."
Take heart!—the Master builds again—
A charmed life old Goodness hath;
The tares may perish—but the grain
is not for death."
O favors every year made new!
O gifts with rain and sunshine sent!
The bounty overruns our throats,
The fullness shames our discontent.
—Whittier.
The stranger at my bedside cannot see
The forms I see, nor hear the sounds I
hear;
He but perceives what is, while unto me
All that has been is visible and clear.
—Longfellow.
—The vine of British Royalty at Hampton
Court is one of the world's notable plants. It
is now in its 38th year, and so carefully is it
tended, that its average yield is eight hundred
bunches a year, and it has produced such a
both tree and fruit are benefited by occasional
cutting of production, only five hundred
bunches were allowed to ripen in 1905, the re-
sult having been a supply of unusually delicious
grapes, most of the bunches weighing more than
a pound each.

Miscellaneous.

The Ring Available.

She knew that everybody at the hotel was sure
she was engaged. She felt that she was
subtly aware of the open secret of her
heart. She was aware that they noticed her
nervous about the matter going out and her en-
gagement about the matter coming in. She would
glance at the ring when she really
knew that every one was looking.
She would hurry into the dining-room a half-
minute before the dinner was served, and she
would sit at the front of the long table, and
before the long windows in the palm-rooms or
alcove in one of the huge raftered rooms on the
porch and gaze absently across the lake.
When the boys asked for a set of tennis she
would look at once startled and pleased, and
hesitatingly would say: "Tennis! Why, I
would dearly love to, but—" And she would
turn inquiringly to her aunt with an expression
by which she meant to say, "Do you think it
is all right?" but by which she seemed to
mean, "Do you think he would think it is
all right?" The more she declined the more
persistent they became, till at length she was
forced to yield. "It is not because of myself. Men always
are silly about engaged girls." This was her secret
thought.
She enjoyed it immensely, however, and the
other girls envied and gossiped.
One afternoon a young college man was pre-
sented to her. "Do you know," said he, "I've
been dying to meet you—that is, ever since I
heard—er—you were engaged."
"Is it such a dreadful thing to be engaged?"
she exclaimed. "I know men just simply
despise engaged girls."
"Oh, no, we don't—that is, some of us don't.
You are all so different from other girls, you
know."
They took a short walk, and ended by sitting
on a bench in the arbor.
"Oh, yes, it's much cooler here," she was say-
ing, as she toyed with the leaves and twigs.
They talked and talked, and got to know each
other far better than even she could have ex-
pected.
The boys said "Whew!" and asked her no
more to play tennis. The girls ceased to envy,
but continued, however, to whisper. The boys
joined them and whispered, too.
The next morning when the crowd went over
to the lake to carry her sticks, she did not
usually play golf in the mornings, but on this
particular morning she was the first to go over.
She knew he would walk with her. She thought
he liked her, at least for the moment; and, as
she walked, she realized the critical situation.
They played a few holes, but lost their last
ball, and rested by the brook.
"I'm sorry you learned I am engaged," she
was saying.
"Sorry? Why, you needn't be," he rejoined,
frankly. "Do you know, I'm decidedly fond
of engaged girls."
Indeed! Why, I really thought that you
were rather afraid of them.
"Afraid of them? No, no, no. His boyish
nature was growing enthusiastic. "It's the
other kind that I'm afraid of—not engaged
girls. Why, a fellow like me could go with a
girl like you all summer and—er—she would
never expect—that is—"
The girl had lowered her head and was gazing
intently into the brook.
"You see, my friends tell me I am suscep-
tible," and she softened her voice to an ex-
traordinary confidential tone. "That's why I'm
glad you're engaged. You see, there's no chance
for me to fall in love this summer."
She was not quite so sure about it, and was
thinking to herself what a fine beginning it all
was.
"Hain't you better try and find the ball?" she
broke in, but made no effort to go. In fact,
she did not go. The last morning slipped by,
leaving them at the brook. They came in late to
lunch, and she knew what all the girls were
saying.
It rained torrents during the two days follow-
ing, and he taught her to play chess.
"The object is to checkmate the King," he
told her.
"Yes, I see," and she wondered if it were not
really commendable to be able to checkmate a
"Jack."
As soon as the sun shone they were out of
doors again. They didn't play tennis as much
as golf, and seemed to enjoy paddling a canoe
better than either. There wasn't so much to do
in the canoe and they could talk volumes. He
told her of his work at college, and, boy like,
built for her castles of future success. She ap-
peared to be most interested and asked him so
many questions that he began to think his plans
were worth something after all. She was the
only one who had ever spoken encouragingly of
them.
"I shall be so anxious to learn in after years
of the name you surely will have made for your-
self," she said to him one evening as he bade her
good night.
He looked longingly into her eyes as the
elevator boy waited in a "going-up" attitude.
"By Jove," he ejaculated, "if I only had a
slacker like you!"
"I suppose she'd get you to quit smoking cig-
arettes." And she laughed out of his head-
one and for always—that bothersome, sisterly
idea.
That night she wrote in her diary something
like this:
"Every morning—3 hours.
Every afternoon—3 hours.
Every evening—3 hours.
Total, 9 hours every day.
Eight hours a day for two weeks would be equiva-
lent in point of time to a series of twenty calls
spread out through a period of two years—and
besides he has greater efficiency for speed than
most men."
A summer is not a lifetime, but is long enough
—at least she thought it would be long enough.
She was to remain through the month of Octo-
ber; he was to leave the last of September. Time
passed more rapidly and more happily than ever
before. They were having the sweetest experi-
ence of their lives.
"He cares for me," she thought over and over
again. "He likes me, but why doesn't he—"
She began to realize that his "efficiency for
speed" was not so great.
"My engagement attracted him, and yet my
engagement holds him off," she concluded. She
knew it—his every word and deed proved it. He
need not speak; and yet he ought to.
Although the days of field and wood were over,
their evening strolls were as an end. Even
summer—and "good-bys" are sad, and there is
no use repeating them. All were said—that is,
all "good-bys" were said—but nothing more. He
went to pack his grip. She retired to her room
to weep, to dry her eyes and to weep some more.
For a long time she lay on her bed, face down,
and pillow was wet with tears.
"It's all over now," she was thinking.
Then she walked to the window and nervously
tied the shade string in over so many little bows
and knots. She was looking at the two-car
stone on her engagement finger.
"My ring attracted him—and about my ring is
driving him away." And she tied more knots in
the window shade string.
"I have it!" she cried, and in a burst of
enthusiasm she jerked the string and snapped
the shade to the top of the window. Her tears
burned dry and eyes beamed with determination
and glowed with anticipated success. It took
only a few minutes to pull the ring from her
finger, and she slipped it on her left hand, and
dashed down her cheek as fast as she could.
Every evening at five o'clock the stage drove
to town—not to return before the following
morning. When she came down on the porch
the horses were waiting and he was about to
step up into the stage.
"Will you mail these in town for me?" she
asked, as with her left hand she gave him the
package and the package. He glanced from the
package to the hand and back again to the
package. It was addressed to a man in Colo-
rado. The letter was directed to the same man.
"Good-bye," he said; "I'll mail them." She
was expecting him to say more, when suddenly
all the guests came hurrying out of the hotel.
They crowded around him and bade him a most
desperate adieu.
"Oh, please!" she said, as the stage moved
round the bend. "I didn't think the whole
house would be here."
She ate no dinner that evening and sat alone
on the porch till it was very late. The next
morning she was very late. She was waiting
down the hill, dusty road over which he had
driven. At length some one came trudging
around the bend. It was a man with a grip. It
was he—she was coming back.
"Hello!" she called in a vain attempt to be
cheerful. "Did you miss your train?"
"No, I didn't miss the train," he replied as he
came up the porch. His voice was as hoarse
as his clothes were dusty. "No, I didn't miss
my train, but I drove clear into town before I
understood what it all meant. I registered that
package and sent it special delivery, too."
He was sitting close beside her. "And I
walked back over six of the roughest miles I
ever traveled just to ask you if I couldn't put
another ring where the old one used to be."
The moon rolled back of a kindly cloud, and
an impetuous shadow over it all and even
the complacent story teller couldn't see.
Late that night, sitting on the floor in her
room, she held a diamond ring between her
fingers and contemplated it. It was the same
ring that she had seen in the window shade
that made the people talk, the same ring that
attracted him.
With an air of satisfaction she returned it to
her jewel case.
"And what would dear old papa think," she
was musing. "If he only knew I can never see
him present again."—Marshall Robie, in the
Columbia Monthly.

Doubt's Department.

WHY MOTHERS ARE PROUD.

Look into his face, look into his eyes,
Roughish and blue and terribly wise—
Roughish and blue, but quick to see
When mother comes in as tired as can be;
Quickest to find her the sweet old chair;
Quickest to get to the top of the stair,
Quickest to see that a kiss on her cheek
Would help her far more than to chatter to
her.
Look in his face, and guess, if you can,
Why mother is proud of her little man.
The mother is proud—I will tell you this;
You can see it for yourself in her tender kiss.
But why? Well, of all her dears,
There is scarcely one who ever hears
The moment she speaks, and jumps to see
What her want or her wishes may be.
Sincerely one. They all forget,
Or are not in the notion to go quite yet.
But this she knows, if her boy is near,
There is somebody certain to want to hear.
Mother is proud, and she holds him fast;
And kisses him first and kisses him last,
And holds her hand and looks in her face,
And hunts for her pool which is out of place.
And proves that he loves her whenever he can,
That is why she is proud of her little man.
—Independent.

Animals as Parents.

"The theory of natural selection," says G. A.
B. Dewar in The Cornhill Magazine, "does not
account for the way in which the care of animals
for their offspring arises, in particular to the pre-
cautions taken by two insects, scorpion beetles
and sphexes, for the future welfare of their
young. The case of the various sphexes is
most amazing in natural history, but it is by no
means the most touching. The female sphex digs a
long passage, and forms at the end several cham-
bers, in each of which she lays an egg. Then she
goes out and captures a caterpillar or a cricket.
She does not kill the prey outright—which she could do, with ease,
but paralyzes it by stinging it in a carefully
selected and non-vital part. In each chamber
she places a paralyzed insect, which will linger
on alive till the eggs hatch, and the young
sphinxes find, ready to hand, a supply of fresh
meat.
"Our own familiar wild rabbit affords a much
more affecting instance of a mother's love than
any sphex. The sphex sets about her duty of
providing for her future young in a highly scien-
tific way, indeed, with the ingenuity of a bee.
The female rabbit has small eyes, but she has
a keen sense of smell, and she is a great
bravery. She makes, as a rule, a special burrow
for her young. She pushes soft fur from her
own body for a large and warm nest. When her
young are born, and she has to leave them for a
moment, she barricades the entrance of the burrow
with earth. Such a precaution may not be very
exceptional among wild animals. But let us
turn to an extraordinary change that takes place in
the disposition of the rabbit when she has a
nest of helpless young. Ordinarily, she is one
of the most timid of wild creatures. The fact is
proverbial: 'If you had the pink of a rabbit',
is an English proverb. Hunted by stock or weasel,
the rabbit often becomes helpless through fear,
and screams even before the teeth of the foe
have gripped her neck. Yet a doe rabbit with
young will not only fight a stock or weasel, but
she will fight a fox or a badger, and a rabbit
will fight a fox or a badger in a high matter—the
villainous intruder, but will succeed in driving
him away.
"Besides the combative nature of many creatures
—scorpion beetle and sphex—when they have
young, there is the deeply interesting and very
question of ruse practiced on behalf of the
young. As regards the partridge, mother and
father will often collaborate to cheat the in-
truder, male or dog, and lure him away from
their young. I was within a very few feet of
seeing a partridge on a little family of par-
tridges crouching on some rough ground. As I
crept about the field, watching a cock trying to
pull off her egg on some small birds, so that she
might provide her future child with a comfort-
able home, a pair of partridges suddenly bounded
up almost in my face. They flew off a little way,
then dropped to the ground and dragged them-
selves and cried out in agonized tones as though
they were wounded birds and I had only to go
and pick them up with my hand. But I knew
this ruse, and looked down, and there were the
chicks, just out of the shells.
"There are many other precautions taken by
birds for protecting their young. I am con-
vinced, indeed, that sometimes birds will
removes the young from the nest and hide them
elsewhere when an intruder has aroused their
suspicions. Gilbert White gives one delightful
instance of craft in a willow wren. It was
jealous of his attention, and one day got
together a bundle of moss and put this over the
entrance of the nest. When White went to see
how his willow wren was getting on with her
brood he could not find the nest for a while,
owing to this clever expedient.
"The love of birds, quadrupeds and perhaps
some insects for their offspring and their grief
for the loss of these through any mishap are
much shorter lived than is the case with human
beings. But they are intense. I have seen a
pair of spotted flycatchers, for the best part of
two days after their solitary child had perished
in the nest, haunting the spot, and uttering cries
of distress when one went near. On the other
hand, if only one or two of the young have
perished through exposure to heat or cold, or
some other mishap, but other young remain
alive, the old birds will not waste time and
energy in lament. I have seen a garden warbler
bring food to her family over a chick she had
very recently lost, part of whose dead body
dangled pitifully over the side of the nest. And
I have known much the same thing to occur with
other birds. We know that the hedge sparrow
will look on unconcerned while the blind and
naked young cuckoo pokes out of the nest. The
male Surinam toad solemnly takes the eggs
one by one and places them in the folds of the
female Surinam toad's skin, where they are to
hatch out. Among other amphibians in whom
the family instinct is well developed are the
frogs which wind the string of eggs round their
bodies, hide while these develop, and then go
down to the water with them. Male spiders
often have no chance to play a part in the man-
agement of the eggs. It is a strange fact that

many of the female spiders loathe and would
kill the lives of their males; yet they seem to
be deeply attached to the interests of their
young. Some of them carry about their eggs in
a hide white silky case these girls have to walk
in my garden I have taken away from a female
spider, traveling among the clouds of the her-
baceous border, her precious bundle of eggs, and
watched the effort. Her agitation has been
marked. She has crawled about for the eggs,
sitting, and, by the exquisite spider sense of
feel, examining minute bits of soil, etc., to see
whether any of these be the missing treasure.
"I shall and with a charming instance of
parental affection in a male bird. Doves have
been thrown on the statement that the cock
blackcap sometimes actually sits on the eggs
of his mate. But I have seen and heard
him singing as he sat on the eggs. I stood still
and took careful note of the bird, of his black
cap, of his song, of the nest, and when he had
sown off, of the eggs."

Overboard at Commencement.

It was commencement day at M— Seminary.
The mother of the prettiest girl graduate was
there—overlooking with pride at her daughter's
graduation. "I'll tell you these girls have to walk
in chalk," said the complacent mother. "They
can't go anywhere without a Shampooer." A
little later, turning to her companion, the good
lady said: "Can you tell me what State Table
dishes is? My oldest daughter is in the
South somewhere for her health. She wrote me
that she was better, and was going to Table
dishes for the first time. Now I've looked all
over the map of the United States and I can't
find that name anywhere."—July Lippincott's.

Engine Smaller than a Fly.

"Tiny Tim" is the name of the smallest engine in
the world. It is made of gold and steel and is so
small that a common house fly seems larger in
comparison.
It is easily carried in the smallest 22 short car-
tridge, writes T. H. Robinson in the Technical
World, because wheat and all. It weighs just
four grains complete, which is about the weight
of a common match. It takes 130 such engines
to weigh one ounce, almost two thousand to
weigh a pound and more than three million to
weigh a ton.
The engine bed and stand are of gold. The
shaft runs in hardened and ground steel bear-
ings inserted in the gold bed.
These bearings are counter bored from the in-
side to form a self-oiling bearing. The fly wheel
has a steel centre and arms, with a gold rim, and
this part (the complete wheel) weighs one grain.
The cylinder is of steel with octagonal base
highly polished. The stroke is 1-32 of an inch;
bore, 3-100 of an inch. Seventeen pieces are
used in the construction of this engine.
The feed is through the gold base, which is
hollow. The speed of this engine is six thousand
revolutions per minute. When running one
hundred per second no motion is visible to the
eye, but it makes a note like the noise of a mo-
tor, caused by the vibrating piston rod.
The horse-power is 1-400,000 of one horse
power. Compressed air is used to run it; and it
may be of interest to note that the amount re-
quired to make it run can easily be borne on the
eyeball without winking.

Notes and Queries.

SUB-MARINE CABLES.—"S. T. M." There
are about 250,000 miles of cable in all at the
bottom of the sea, representing \$200,000,000, each
line costing about \$1000 a mile to make and lay.
The average useful life of a cable nowadays is
anything between thirty and forty years, accord-
ing to circumstances. About six million mes-
sages are conveyed by the world's cables
throughout the year, or fifteen thousand a day.
The working speed of any one cable being up to
one hundred words a minute under present con-
ditions. About ninety per cent. of these are
sent in code or cipher.
WAY THUNDER SOUNDS MILK.—"J. J." Milk,
like most other substances, contains millions of
bacteria. The milk bacteria that in a day or

two, under natural conditions, would cause the
milk to sour are peculiarly susceptible to elec-
tricity. Electricity inspires and invigorates
them, affecting them as alcohol, cocaine or
strong tea affects men. Under the current's
influence they fail to work with amazing energy
and instead of taking a couple of days to sour
the milk they accomplish the task completely in
half an hour. It is not the thunder in a storm
that causes milk; it is the electricity in the air
that does it. With an electric battery it is easy
on the same principle, to sour the freshest milk.
A strong current excites the microbes to super-
normal exertion, and in a few minutes they do
a job that under ordinary conditions would
take them a couple of days.
CONSERVATISM OF OPINION.—"S. S." The objec-
tion which is raised against the location is on
the score of tautology. A very common guise
in which the phrase appears "general consensus
of opinion" involves a double tautology. Con-
sensus in itself carries the full and exact sense
of "a collective unanimous opinion." To stick
the word general in front of it duplicates the
"cons," and to add another opinion double up
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The objection to tautology is a valid one when
it results in vain repetition. Properly employed
the repetition of a word already used or the
repeating of the same sense in synonymous
terms may become a powerful instrument of
emphasis. The English of the Prayer Book
abounds in it: "to acknowledge and confess
our manifold sins and wickedness," "not dis-
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gether," "prayer and beseech," "you as many as
are here present"; seven duplicate expressions in a
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FURRY AND FITTY.—"L. D." Dog fanciers say
that there is no surer way of giving a puppy of
five to twelve months a fit than by fastening a
chain to its collar and leading it out into the
crowded streets, or even on a country road, for
a walk when the sun is hot. Young dogs in the
latter half of their first year are generally in an
irritable condition of the nerves from teething,
and when to the pain in their little mouths is
added the aggravation of the heat, glare and
confusion of the streets and the restraint of the
chain it is very apt to prove too much for them.
With a yelp the victim slips his collar, or tears
the chain away, and rushes off, and the cry of
"mad dog" is raised; or, even if that does not
appear, the puppy is likely in his wild flight to
be hit from home and owner before, exhausted,
he falls in a convulsion. These teething fits are
seldom dangerous; they can be soothed by quiet,
darkness and bromide; but if a crowd of ignor-
ant people mistake the seizure for rabies, the
owner is likely to find himself minus a puppy,
and there is one canine a victim to the unfor-
tunate conditions of town life for dogs. And, un-
happily, people usually buy puppies in the
spring and rear them during the summer, always
the worst time for a growing dog.
...To have ideas is to gather flowers; to
think is to weave them into garlands.—Madame
Swetchine.

To South Dakota

The Land of Bread and Butter

SOUTH DAKOTA IS LONG ON WEALTH AND SHORT ON PEOPLE.

Today it presents the best opportunities in America for those who want to get ahead on the Highway to Independence. More than 47,000,000 bushels of corn, more than 47,000,000 bushels of wheat, live stock to the value of \$41,000,000, hay to the value of \$12,000,000, and products of the mines above \$12,000,000, were some of the returns from South Dakota for 1905. With a population of only 450,000, and the annual production of new wealth above \$166,000,000, it can be readily understood why South Dakota people are prosperous and happy. The outlook for 1906 crops is the best South Dakota has ever known.

Why don't you go there and investigate the openings along the new lines of this railway for yourself?

From Chicago, and from many other points in Illinois, Minnesota, Iowa and Missouri, direct service to South Dakota is offered via the

Chicago, Milwaukee & St. Paul Railway

Its main lines and branch lines fairly gridiron the rich agricultural and stock country of South Dakota. Its mileage in South Dakota is more than 1,200 miles, and by the building of extensions is being rapidly increased.

A NEW LINE IS NOW BEING BUILT from Chamberlain, S. D., to Rapid City, S. D., through Lyman, Stanley and Pennington Counties. Some of the best opportunities for success are along these new lines. The railway company has NO farm lands for sale or rent. If you are interested, it is worth while to write today for a new book on South Dakota. It will be sent free by return mail.

F. A. MILLER, General Passenger Agent,

CHICAGO

The Horse.

The Farm Horse in July.

Never allow your horses to wear loose fitting collars. The collars should fit snug, but not too tightly. Be sure to keep the horse's breast clean in warm weather, when the sweat dries on. Wash the collar clean while the team is resting, and wash the breast of the horse before the sweat dries on. If proper attention is given this matter rarely will the horse's breast get sore.

Some use sweat pads; they seem to protect the shoulders. These pads must be kept free of dried sweat, if possible. If the breast should get sore put a very small quantity of tannic acid in a quart of water, and bathe three times a day, of course washing clean before bathing. Simply a cool water bath is excellent. E. M. C.

Green Food.

Some succulent green food should, if possible, be included in the daily bill-of-fare of all stabled horses during the summer, excepting when they are afforded the opportunity of grazing on a pasture over night. The green food proves most cooling and refreshing, and serves to keep them in a healthy condition, and to promote the appetite. In country stables it is usually an easy matter to provide on green forage for the horses, while in towns it is also in most cases possible to obtain a supply of it, though it may be somewhat expensive. In any case it is advisable to give some green food daily, and when only a very small quantity is provided it is best to give it in the evening along with the last feed of corn. When larger quantities are fed some green food may be given in the morning and some in the evening, while it also proves most refreshing to horses when they return heated and tired to their stable after work. Bran mashes are not needed when the horses receive a daily allowance of green forage. Similarly, when stabled horses are turned out to a pasture field over night, and thus obtain some grazing, the customary bran mashes may be omitted. In working horses when it is very hot, care should be taken to save them as much as possible, and their powers should not be too severely taxed. They should occasionally be allowed a breathing space—if possible in the shade—if they are worked for any length of time. The fact of a horse being distressed unduly by the heat is shown by the animal blowing hard and quick, and horses often become thus distressed in hot weather without having undergone much exertion.

Butter Prices Fully Maintained.

The local butter market holds firm in response to the price situation in the country markets, but the demand is nothing great, and it is apparent that the feeling would be a trifle weaker were it not supported by the general situation. Receipts are lighter in many markets, and, in fact, are somewhat below last year's receipts at this time in Boston. Hot weather, of course, is an unfavorable incident, often preventing the placing of large orders and causing holders to be a little more anxious to sell promptly. For the same reason there is a large proportion of goods showing injury from hot weather, and these off-quality lots are rather hard to sell under present conditions. Fancy creamery or dairy butter, however, is firmly held and seems to be all wanted by customers. Limitation and factory butters hold about the same price as last quoted. Butter in boxes is selling fairly well, but print butter does not seem to be so much wanted as might be expected at this time and commands hardly any premium over tub butter.

The Boston cheese market holds firm with demand not very active and more or less cheese going into cold storage rather than for sale on the market. In most country markets cheese prices are fully maintained or even advanced, but Canadian markets come a little weaker.

So far as creamery butter is concerned the New York market is practically the same as last week. General trade was quiet, but fancy goods are held fairly steady. There is a smaller proportion of these; medium to choice quantities are plentiful and offering freely, with the same weak factory butter has declined slightly under light export demand and a freer offering. The other Western packings are as last reported.

The New York cheese market is firm and higher in sympathy with the high figures paid at country markets last week, but the advanced prices asked have had a tendency to cause a little more cautious buying. Canadian advices are somewhat weaker. Liverpool cable declines are stilling since last week, and export orders have been considerably curtailed. Skims were only moderately active, but prices one-quarter higher in sympathy with full cream.

Potatoes Plenty.

The potato market has taken quite a tumble from the lightest of the season in all the leading centres on account of large receipts. Every week a new section comes into the market and increases the supply, but even at the lowest the price has been good enough to leave a profit for the growers, and all sections, from Florida to Long Island, have been doing pretty well. The best potatoes come now from Long Island, and these have ranged during the past week from \$2 to \$2.50 a barrel. Long Island people will not sell for less than \$2, preferring to hold their stock rather than to accept lower prices. The Long Island crop seems to be larger than last season. Jersey potatoes bring about the same price as Long Island. Potato news continues favorable from all sections, from Maine to Colorado. In Michigan and the Lake region the crop is growing well, and the vines reported in good condition. As dealers size up the situation here, a large crop is reported in the country, as a whole, and prices are expected to be only moderate next winter.

Apple News and Gossip.

Reports of poor apple crops in the Hudson river section continue to come in, and it seems to be an assured fact that not many apples of the common varieties will come from that section. Some correspondents complain of San Jose scale, which is becoming very prevalent and injures both trees and fruit. Pears promise a big crop, mostly Bartlett, Clapp's Favorite and Kieffer. Kieffers, however, are not bearing so well as other kinds. The pear crop seems to be a big one all through New York State, but it is believed prices will not be very high in Eastern markets. Southern Kieffers and Le Conte are bringing good prices, but figures are likely to go down as soon as the main crop arrives.

The following is a sample of the exaggerated statements put out by misinformed or deceptive dealers: "The apple crop is going to be a big one everywhere from

Maine to California. Even Massachusetts reports every apple tree loaded. Dealers can see nothing in sight but cheap fruit." This sort of talk is familiar to producers, being repeated every year whether the crop is really good or bad. It is a usual preface to a campaign of apple buying, and it must be added, apple lying. Dealers like to have growers imbibe the idea that apples are plenty everywhere but in their own section, and that they will be a drug on the market. But reports received direct from growers indicate that good apples will sell readily at fair prices all through this section and no grower should part with his holdings until the market becomes settled.

The only feature of the situation that makes for low prices is the fact that some localities in the Central States have large crops, including a great many young orchards that are just coming into bearing, and are producing a commercial crop for the first time; but these apples will have to be sent a good way to reach Eastern markets, and to transport them would cost money. Hence it is hard to see how the market can reach very low prices so long as the general prosperity continues and the people are able to buy all the apples they want.

In Niagara County, N. Y., the King apple will be a good crop. It is the leading variety in this county.

The central West and Southwest still figure as the most promising apple sections for this year. Missouri is coming vigorously to the front with a large number of new orchards, and claims to be the leading apple State, with one county likely to have an output of one hundred thousand barrels. The Missouri orchards, while numerous, are mostly of young trees, and hence not such big yielders as might be expected from the number. The varieties are mostly Ben Davis and other coarse kinds. If this fruit is sent to Eastern markets, consumers will be likely to get enough of it. Either for cooking or for table use it compares very poorly with standard Eastern varieties. A good crop is indicated in the Ozark region where the Ben Davis is also grown. Apples from this section usually go mostly to the South and middle West. The quality of the Southwestern fruit promises well so far, but the crop of this section is always unreliable until the season is past for bitter rot. Usually this disease strikes the orchards in midsummer, and often the crop goes backward very fast during August. Present conditions have given rise to an estimate of seven thousand carloads in the Ozark region and adjoining sections, but such predictions should be taken conditionally until further developments.

The crop in western New York looks small compared with a full bearing year, but on the other hand it compares well with the small crop of last year. As compared with an average yield, it may be called a full crop, except in localities where the Baldwins and Russets are the leading varieties, these being light yielders this year in every section of the country. Baldwins, however, in western New York are doing better than last year, when the yield was very light indeed.

The apple outlook as a whole in Europe indicates a fairly good crop in almost all parts of Europe, and the yield will certainly be larger than it was last year. The greater part of this fruit will be in the market and out of the way before our main commercial varieties are ready for shipment, but, of course, a good crop in Europe takes the keen edge off the market for American apples. It also interferes with the export demand for our fall varieties.

The exaggerated idea of the apple crop held by some people is no doubt due to the fact that many of the early varieties are producing well in localities where the late kinds are at present indications of nearly a failure. The heavy bloom of the late kinds also gave the impression that a big yield would follow, and accounts for contradictory reports from correspondents, some of whom failed to examine the orchards later in the season and notice how poorly the fruit has set in proportion to the bloom.

The Hood river section in Oregon, which produces a good many fancy apples, expects to have about the usual crop, and growers are insisting on the high prices received last year.

The crop in the Grand Junction district of Colorado, which is the principal apple growing section of the State, is estimated at about three thousand carloads, and is called a lighter yield than last year, caused by the fruit setting poorly. Most of the Colorado fruit ordinarily goes to the local markets and the Southwest with some for export.

The California apple crop is not an important item in the general market, but indicates about the same yield as last year. The enormous Michigan apple crop indicates a fair crop, say fifty to sixty per

cent in the State as a whole, with the heaviest yield south and the lightest yield in the northern part of the State.

An estimate of the Massachusetts winter apple crop that seems very nearly in line with all the facts is that of E. Cyrus Miller of the Hampshire County Fruit Growers Society, who places the crop at about twenty-five to thirty-five per cent. of a full crop. He notices a special shortage in Baldwin and Kings and other observers have noted a similar shortage in Russets. These are the three leading commercial varieties in the State.

Reports from the Virginia apple section continue to talk of a shortage, and not more than one-fourth crop is indicated in the leading market varieties.

From fifty to seventy-five per cent. of a crop is reported in the large Coombs orchard in Kansas.

Last season an apple grower of Groton, Mass., tried a gang of Italians as apple pickers. He found them good natured and willing and careful pickers after experience.

Canada Apples a Middling Yield.

The government fruit report of Canada shows a falling off in condition from early reports on account of serious dropping and the failure of the fruit to set well. As in other sections, early apples are a good crop, but fall and winter kinds not nearly so good. Baldwins, Spies and Russets are a light yield. The crop taken as a whole is about medium, but the coming into bearing of new orchards will somewhat increase the actual production. The Annapolis valley of Nova Scotia is particularly fortunate in depending largely on Gravensteins, which have set much more fruit than late kinds, and where thoroughly sprayed promise a large crop. Sections of Canada which depend on the Baldwin will not have a very large surplus for winter storing and export.

A demand which will take care of many of the early apples is the increased market in the rapidly growing cities of Canada. Although the Canadian crop is a medium one, there will, no doubt, be a great many apples for export, and these will go largely to Great Britain, since the German market is close to the Canadian on account of the operation of the new German tariff. Last year a moderate number of apples from Canada were successfully exported to France, mostly Ben Davis and Russets.

The Onion Crop.

According to the Government report for July, the following per cents. show the condition of the onion crop in the various leading producing States: Massachusetts, 80; Connecticut, 87; New York, 80; Pennsylvania, 92; New Jersey, 93; Indiana, 87; Ohio, 88; Iowa, 93.

The Arrostok Potato Crop.

The average planted to potatoes this year in Arrostok County, Me., is ten to twenty-five per cent. larger than ever before, and there will be probably twelve to fifteen million bushels for shipment this fall, unless there is a drought or some unforeseen catastrophe happens to injure the crop. Thomas H. Phair of Presque Isle, known as the "Starbuck King," in speaking of the effect of the denatured alcohol bill upon the potato industry of Maine, says: "But little alcohol will be manufactured from potatoes there. He says: 'If alcohol is made from potatoes to any extent, I think it will be in the West. We can get more for our potatoes here by shipping them to market or by making starch of them. In the West, however, they raise a lot of potatoes and they are cheap, because they don't know how to care for them and market them to the best advantage as we do. I have never seen the potato fields looking better at this time of year than they are now. The plants are doing very well indeed. The seed all did well and the plants are big and healthy looking.'

"The average planted to corn and grain in the county this year is about in the same proportion to the potato average that it always is. The land planted to potatoes last year is now planted to grain and vice versa. The changing about of the crops from year to year keeps the land from being run out and insures a good crop every year."

Strong, Steady Bay Prices.

The bay market is steady and strong, with the average of prices in both Eastern and Western sections of the country a little higher than last week. There is, however, no special change in quotations in Boston and New York. Receipts are fairly up to the needs of the market, but the strength of the market lies in the generally increased reports of more or less shortage of the crop in parts of the Central West. However, that may be, hay is certainly a good crop in this part of the country and a heavy one

in the State as a whole, with the heaviest yield south and the lightest yield in the northern part of the State.

Apple Crop Percentage.

The apple crop percentage, as indicated by the Government July report in various States, is as follows: Maine, 80; New Hampshire, 78; Vermont, 81; Massachusetts, 78; Rhode Island, 80; Connecticut, 87; New York, 75; Pennsylvania, 92; Ohio, 88; Michigan, 71; Indiana, 70; Illinois, 80; Wisconsin, 80; Iowa, 93; Missouri, 82; Kansas, 78; Washington, 75; Oregon, 85.

Provision Trade Dull.

Beef prices maintain their high level but trade is dull, and the raising of prices was evidently an arbitrary process not justified by the situation. Packers claimed that the higher price of cattle required the advance, but the general public continues to believe that the packers intend to make up on dressed beef what they lose on the canned goods trade. The top price of choice beef is 9 cents, but dealers find this figure hard to obtain.

Spring lambs are in full supply and only fair demand. Veals are less abundant and prices tend a little higher for best lots. Ordinary lots hold unchanged. Weather is unfavorable for shipment and many veals arrive out of condition and increase the percentage of lower grades.

Native Fruit Fairly Abundant.

As the apple season advances, buyers are becoming more and more exacting and refuse to pay full prices for very small inferior fruit. Some of the native Astrachans and Sweetbushes are now quite large and good. They bring around \$3 a barrel. Most lots brought in on farmers' carts are sold around \$1.25 a barrel box. Some windfalls sell at 75 cents or any price the owner can get, according to quality.

Currants are nearing the end of the season, but some good ones are coming from Northern points. Southern pears are still selling well at good prices. Blueberries are in rather light supply on account of weather unfavorable for picking and many arrive in poor condition. Blackberries are no doubt a big crop everywhere and dealers expect large arrivals, but as yet the supply is moderate and the demand good. Green gooseberries are selling fairly well. Some dealers report a fair demand for black currants, which sell at about the same price as the red varieties, or a little higher if choice. Raspberries are in heavy supply and lower.

At New York apples arrive only in small quantities and meet rather a slow market, chiefly because the quality is undesirable. Southern pears arrive largely in poor condition; the range of prices is unchanged, but less of the stock sells at top figures; some poor lots have to go very low. Plums are arriving rather slowly. Peaches are in very heavy supply from the far South and the receipts largely in poor order; prices lower and weak, with some lots almost worthless. Grapes are lower. Currants and all sorts of berries were in irregular condition and many lots were so soft that very low prices have to be accepted; strictly prime dry stock is nominally steady. Fancy Western muskmelons about steady; ordinary muskmelons, including most of the receipts from nearby and Southern points, are dragging at comparatively low prices. Watermelons are lower under more liberal receipts.

Poultry Steady.

Nothing especially new can be said of the poultry situation, about the only feature being the rather firm price for broilers of all classes so late in the season. The top quotation is 25 cents, which is excellent for the last of July. Live spring chickens are bringing 17 to 18 cents, and live fowls 15 cents. Ducks are plenty and not much wanted. The poultry market as a whole is quiet and prices steady.

Increasing Supplies of Meat Vegetables.

In the produce market the same condition prevails which has been noted for some weeks, but more pronounced. There is an increasing supply both in quantity and variety of native vegetables and prices steadily work downward on the average of the list. Cabbages are now plenty and much cheaper, likewise summer squashes and string beans. Many of the string beans are spotted by much heat and moisture, which cuts down the average price greatly. Common peas are cheap, but Strasburg and other large kinds bring good prices. The best are coming from Maine and New Jersey. Tomatoes are more and more plenty, although the native supply is still

limited with prices high, although working down. There are a few native peppers at \$2.50 a bushel. Onions are becoming quite plenty with prices around \$1 a bushel; onion sets 75 to 90 cents a bushel. Native cucumbers are about the only exception, the supply being a little lighter. This week and prices fully maintained. Potatoes are in liberal receipt, the demand moderate, and prices tending a little lower. Sweet potatoes are in limited supply with prices steady.

The market at New York for Irish potatoes shows very little change. Strictly prime stock is meeting a fair demand at steady prices, and occasional lots of exceptionally fine Jersey and Southern are held a little above quotations. The figures given, however, are as high as general sales are reported. Old sweet potatoes are moving slowly. Beets and carrots are lower under more liberal supplies. Cabbages about steady. Cucumbers moving slowly; must be chosen to reach top quotations. Green corn irregular in quality and value; fancy stock meets a good demand, but is hard to find. Eggplants steady. Onions firm. Western New York peas and beans meet a good demand when choice, but the receipts are of irregular quality and poor stock is hard to sell. Tomatoes are more plentiful and easier, with considerable pressure to sell.

Produce Notes.

Until last year England had a monopoly of Siberian butter, but Germany stepped in and took half of the production of Siberia direct, and at such prices that London prices went up fifty cents per hundredweight. This year Germany is taking all the Siberian butter, notwithstanding that her import duty was increased from \$2.00 to \$4.87 per hundredweight. What is true of Siberian butter is true of the Dutch article, and to a large extent of Russian, Finnish and Danish butter. All this explains the British housewives why they must pay higher prices for provisions.

The peach crop of western New York is pronounced very promising and of unusually good quality. A big yield is promised unless something happens to interfere, such as heavy rains or wind storms.

Peaches from Missouri and Kansas are being sold to some extent in Boston markets. They are fine in appearance and quality considering the long journey.

The cranberry crop, according to reports from Cape Cod, New Jersey and Michigan, will be an average yield in all sections. The acreage will be somewhat increased as

new bugs are coming into production for the first time this year.

Heavy wind storms in the Hudson river district caused some damage to fruit growers last week, stripping the fruit from the trees.

A correspondent in Russia of the London Commercial Intelligence predicts a famine this year in that country. The exceptionally dry spring has greatly affected the crops, and from many provinces come reports that the peasants will be unable to get along without government help. As the manufacturing industries are also in a very precarious condition, owing to continuous strikes and riots, the position of affairs does not look promising. There is a great danger of recrudescence of agrarian and other outrages.

The largest Western creamery has established a branch in Chicago chiefly for advertising purposes. A big factory store has been fitted up with dairy machinery, attractively finished and set up and operated by uniformed workmen. Of course, not everybody who buys the output of this creamery will get the butter made in this model factory.

The late variety of blight of potatoes is liable to do serious damage this year, according to Prof. A. D. Selby of the Ohio Experiment Station. He urges spraying with bordeaux mixture at intervals of ten days or less all through the season until September.

Very Firm Prices for Eggs.

Eggs are in rather heavy supply for the time of year, nearly double the receipts for the corresponding time last year. Much of the stock arriving shows the effect of hot weather and sells low compared with the price of the best nearby stock. Fancy hen eggs readily bring 26 cents, while the ordinary run of New England stock ranges from 18 to 23 cents and common lots of Western eggs from 15 to 19 cents, with a few fancy Northwestern stock at 18 to 19 cents. The firm tendency of the market in the face of the large arrivals indicates that the consuming demand is in a very active condition.

The week opened at New York with only a moderate stock of eggs carried from previous receipts in receivers' hands, and advances still indicate moderate supplies in transit. The general market is unchanged, the tone being steady to firm and showing considerable strength in the higher grades. Most sales of Western range 16 to 18 cents; occasional lots of closely candied grades bring more.

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